

104
ARCTIC COASTAL PLAIN LEASING

Y 4.R 31/3:104-33

Arctic Coastal Plain Leasing, Serial...

HEARING

BEFORE THE

**COMMITTEE ON RESOURCES
HOUSE OF REPRESENTATIVES**

ONE HUNDRED FOURTH CONGRESS

FIRST SESSION

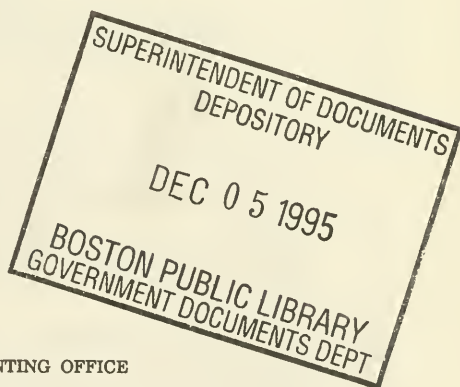
ON

**LEASING OF THE 1002 AREA OF THE ARCTIC NA-
TIONAL WILDLIFE REFUGE (ANWR) TO THE OIL EX-
PLORATION AND DEVELOPMENT INDUSTRY**

AUGUST 3, 1995—WASHINGTON, DC

Serial No. 104-33

Printed for the use of the Committee on Resources



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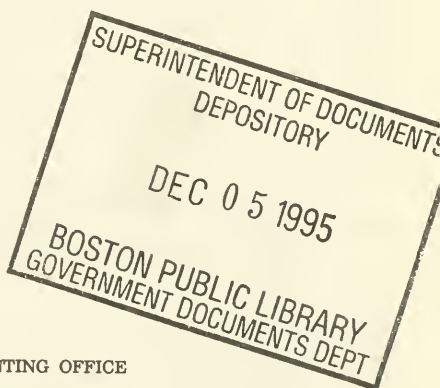
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ARCTIC COASTAL PLAIN LEASING

THURSDAY, AUGUST 3, 1995

HOUSE OF REPRESENTATIVES,
COMMITTEE ON RESOURCES,
Washington, DC.

The committee met, pursuant to call, at 10:10, in room 1324, Longworth House Office Building, Hon. Ken Calvert (Chairman, Subcommittee on Energy and Mineral Resources) presiding.

STATEMENT OF HON. KEN CALVERT, A U.S. REPRESENTATIVE FROM CALIFORNIA; AND CHAIRMAN, SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES

Mr. CALVERT. The committee will come to order. I am sorry to report that the Chairman is unable to be with us today. He is recovering from a medical procedure he underwent on Monday at Bethesda Naval Hospital. The procedure involved the insertion of a small pipe called a stent into an artery to improve his blood flow.

He is in good condition, resting comfortably and is expected to be released from the hospital soon, so I know our prayers are with him. The Chairman has asked me to preside over this hearing in his absence.

The committee today will hear testimony regarding leasing of the 1002 area of the Arctic National Wildlife Refuge, referred to as ANWR, to the oil exploration and development industry.

As everyone is aware, the Budget Resolution recently adopted by the House and Senate contains provision requiring a leasing program to take place in ANWR. The resolution estimates that such a program would raise over \$1 billion over the next five to seven years. Any future development could produce billions in the form of royalties and taxes to states and Federal Government.

It is therefore incumbent upon this committee to craft implementing legislation, through the Reconciliation process, which allows the government to reach targets set forth in the Budget Resolution.

In order to best examine this issue, it is important to examine it from an economic- and oil-dependence perspective.

Last year the Department of Commerce issued a report to the President which concluded that we are over 50 percent dependent on imports for our oil, and as such, net imports present a threat to our national security.

In the latest report, May 1995, Commerce reported the highest trade deficit we have ever experienced. The largest single trade deficit commodities are crude oil and refined products, which total over \$50 billion annually.

We have done little in the country over the past decade to encourage domestic production. In fact, the oil industry has lost nearly 500,000 good-paying jobs in the last decade. That is more than the auto, steel and textile industries combined. We must encourage domestic production, and developing ANWR is a step in the right direction.

At present price, every 100,000 barrels of oil that we can produce per day to replace imports will decrease our trade deficit by \$600 million annually.

It is against that backdrop that I encourage members to examine this issue. We have an opportunity to allow leasing to take place in our continent's best oil and gas prospect. Exploration will only occur during the winter when the ground is frozen so there will be minimal surface disruption. If no oil is found, the government will still receive revenues from leasing, and there will be virtually no impact on the Coastal Plain.

The question no longer is should we develop ANWR, but how can it best be done.

Many of the members are new to the Congress and committee and, like myself, may not be totally familiar with this issue. For that reason, the Chairman has asked that I provide members with some background.

The majority of what now makes up ANWR was set aside in 1960. It consists of approximately 19 million acres in the northeast corner of Alaska, an area about the size of South Carolina, as you can see on that map. 8 million acres or 42 percent has been designated wilderness.

The wilderness was established in 1980 pursuant to passage of the Alaska National Interest Lands Conservation Act, ANILCA.

ANILCA also directed the Secretary of Interior to study the oil and gas potential of the 1002 area, which consists of 1.5 million acres and is often referred to as the Coastal Plain.

The maximum area which would be used for surface facilities, if development takes place, is approximately 12,000 acres or less than one percent of the Coastal Plain. This is an area about the size of Dulles Airport.

Energy potential of the Coastal Plain: The Interior Department study completed in 1987 estimated there was a 119 percent chance of finding from 3.2 to 9.2 billion barrels of recoverable oil under the Coastal Plain.

In 1991, the Interior Department revised these estimates and said there is a 46 percent chance of finding similar quantities of recoverable oil in the Coastal Plain.

The GAO in 1993 reviewed the 1991 BLM update and agreed that ANWR is likely to contain a substantial amount of oil. I don't think anyone disagrees with that.

A great deal of attention has been paid recently to resource estimates generated by USGS and others. The Chairman questions the purposes for which they are being used. In any event, the USGS estimates do not differ in any meaningful way from the estimates of BLM or GAO. The fact of the matter is no one will really know what lies under ANWR until it is drilled.

Since history shows that unexplored areas result in oil discoveries only two percent of the time, a 46 percent chance of finding oil deposits in this small area is an excellent probability.

The Prudhoe Bay currently accounts for about 24 percent of United States oil production. It is now at 1.5 million barrels a day and rapidly declining, down from over 2 million barrels per day in 1988. The decline continues in spite of aggressive exploration and development efforts aimed at reversing that trend. Despite reports to the contrary, there is a consensus among geologists that ANWR offers the only chance to offset that decline.

DOE predicted in 1991 that the Trans-Alaska Pipeline might cease operation as early as 2008. That underscores the importance of ANWR as the great remaining opportunity in Alaska. New production from ANWR would also accelerate the development of previously discovered uneconomic fields elsewhere on the North Slope.

If exploration was authorized today, it would be at least ten to fifteen years before oil production could begin under existing regulations.

There are about 33 caribou herds in Alaska. Four of them are found in Alaska's North Slope. Three of the herds have been exposed to oil and gas development in their ranges. Based on this experience, we are confident, with the appropriate stipulations in place, exploration and development can proceed in ANWR while protecting the Porcupine Caribou Herd. This herd of approximately 150,000 animals is present on the Coastal Plain of ANWR for six to eight weeks each summer during its migration.

The two decades of exploration and development on the North Slope have clearly demonstrated what works in the Arctic environment, where improvements are needed. Similarly, Federal and state regulations are in place that will protect the environment.

The state and others believe development on the North Slope has been positive. Congress can direct the regulatory tools necessary to permit exploration and development on the Coastal Plain of ANWR while protecting the environment.

In May of 1990, a study revealed that development could create 732,000 new jobs throughout the nation. This study also found that development would raise the gross national product, result in lower world oil prices and reduce the outflow of U.S. dollars to other nations. While these figures may be somewhat outdated, they will continue to illustrate the point that ANWR development would bring hundreds of thousands of jobs and billions of revenue to this nation.

We have assembled a variety of witnesses Mr. Young has brought with us today that he hopes will provide members with a balanced view from which they can make informed decisions. I look forward to hearing from each one of them and would like to now turn the mike over to the ranking member, Mr. Miller from California.

Mr. MILLER. Thank you, Chairman. I am going to yield my mike for an opening statement from Mr. Vento.

**STATEMENT OF HON. BRUCE VENTO, A U.S. REPRESENTATIVE
FROM MINNESOTA**

Mr. VENTO. Mr. Chairman, let me convey my wish to Chairman Young for a speedy recovery. I am sorry to learn of his setback. Probably for the good of his heart, it is better he isn't here to hear me in any case.

Mr. CALVERT. I am sure you are right.

Mr. VENTO. As we disagree about this and disagree sharply. You know, Mr. Chairman, the argument here has gone from energy security to deficit reduction to job production and I think that there obviously are sharp differences over much of what has been portrayed. For the new members, and we have many new members on this committee, the rules of the budget did not provide for counting an asset sale as a deficit reduction for the purposes of scoring, so the rules had to be changed this year in the context to accomplish that, which I think is telling because the asset is really something in the bank so if you take it out and spend it you lose the money in the bank. And that was the concept behind it.

Obviously, I think that many of the economic projections with regards to jobs and so forth are far-fetched and are not necessarily accurate. I think there are many other ways and activities we should be involved with.

In terms of the issue, the price of oil, the initial studies here indicated there is probably a one in five chance of discovering oil in this area and that it would be economically productive if the cost today in 1995 dollars was \$38 a barrel. Well, if you have checked the world market, I think the highest price this year has been something like \$19.13. So the point is in terms of putting leases forward and moving in the direction we are there is not much of a probability that you are going to raise the types of dollars that are being suggested and in fact the leases that would be achieved or provided here based on renewed efforts of assessments by USGS would be abysmally low.

The fact is, of course, that while there is maybe a 20 percent chance of finding oil, irrespective the footprint and the impact that this would have by not occupying a lot of space, has a broad impact. And there is probably a 100 percent chance of in fact permanently changing the biological diversity and the important characteristics of this area which has been known or been referred to as America's Serengeti.

Historically, the traditional rationale for opening it, of course, has been national security. But now we are moving to, in fact, take the oil from Alaska and sell it on a broader world market. That was the point, in fact, of legislation that passed last week. So energy security, budget reduction, the fact is in terms of even filling the pipeline and other areas of Alaska there are numerous areas where due diligence in terms of development of leases that are outstanding would probably yield in fact more production of oil.

And so I just think that the issue is one in which we have to go back to square one. We don't have a national security problem here. We still have the tremendous resources. The studies that went forth even in the mid-'80's by the BLM, the late '80's, pointed out the importance of this area to literally millions of migrating waterfowl such as the 160,000 herd of caribou and the Porcupine

Caribou Herd. I, of course, had the opportunity, and I hope many members of the committee will have the opportunity to visit this area and to get on the ground and take a look at what we are talking about. You know, I think they will recognize the tremendous problems in terms of development and exploration that will occur.

And of course when you just say it is just a small area, you have to look at what that footprint does. I mean, you are dealing with a key interface in terms of the ecosystem in this area. Developing the Arctic range would indeed be profitable for oil companies and for the state of Alaska, at least if they get the 90 percent that they are pursuing in court with regard to this. But I am not convinced that the American people are willing to trade an internationally acclaimed natural legacy and a future generation's inheritance for today's political gains, for the expedience of full profits.

The Caribou calving ground in the Coastal Plain is a unique ecosystem. It is recognized for its diversity. And I mentioned that there are over 200 notable species of wildlife dependent upon the Coastal Plain for survival. And of course key in that is a native Alaskan group as a representative by the Gwich'in Tribe will testify today.

I doubt that there will be much disagreement regarding ANWR's world class ecosystem status. The Arctic Refuge wasn't haphazardly thrown into a mix of wilderness protection. The fact is we specifically protected that in the 1980 law so that it wouldn't be available for development, so that there would be a careful review of this. I recall that it was a pragmatic, careful Republican incidentally, President Eisenhower, who initiated the process for protection of this critically biological area.

For the past 14 years the plain has been in a twilight zone, enjoying the status of wilderness without the full force of protection of law. Today the failure to designate the Coastal Plain as wilderness of course has a shadow and places this unique ecosystem at risk.

As a principle sponsor of legislation in the House this year, I am, with 80 sponsors to date this session, offering legislation which will permanently protect the Arctic Refuge as wilderness. And I would recall that the initial sponsor of this legislation and advocate was one of our mentors and friends, Chairman Mo Udall. And I quote what he said. "Not in our generation, nor ever again will we have a land and wildlife opportunity approaching the scope and importance of this one. In terms of wilderness preservation, Alaska is the last frontier. This time, given one great final chance, let us strive to do it right."

The American people want adequate protections for special natural resource areas such as ANWR, this Caribou calving grounds. Neither America nor Alaska is rich enough to lose this precious resource nor poor enough to need to spend it.

Mr. Chairman, I look forward to the hearing.

Mr. CALVERT. Thank you. Mr. Saxton has something.

STATEMENT OF HON. JIM SAXTON, A U.S. REPRESENTATIVE FROM NEW JERSEY

Mr. SAXTON. Thank you, Mr. Chairman. I will be very brief. First I just would like to welcome Senator Stevens to the House side this

morning. Senator Stevens probably doesn't remember, but in 1984 when I was elected, the very first thing I did when I came here was to meet Senator Stevens, the first Senator I had met outside of my home state, and together we held a news conference in November or December to designate 1985 as the Year of the Ocean. And I will always remember that and appreciate the good help that you gave me that day and in the days to follow.

As I look around the room, when I came in the room I looked at the map, and I looked around the room, and I listened to two very articulate opening statements. And then I realized that I am the only person today sitting on the panel who was a member of the Merchant Marine and Fisheries Committee in 1988, the last time we had this war. And it is a little like *deja vu* all over again. And I would just say to the members who haven't heard this issue in-depth yet that it is really intriguing. It is really interesting and whether you come down on the side of energy security and the issues that have to do with our country's tenuous situation relative to foreign imported oil and maybe domestic exported oil, whatever, those are important issues as well as the economic ramifications of this. And there are also some very important issues that have to do with the ecological balance or the potential damage that could be done to it in the ANWR area. And frankly, as I listened to all these arguments the last time, and as the Merchant Marine and Fisheries Committee reported the bill to permit development, I came down as a no. Now I am not saying that I will do that this time, but just to demonstrate the tenuous nature of that success, it was shortly after the bill was reported that the *Exxon Valdez* incident occurred. And that was enough to bury this thing since 1988. And so it is really—you are all going to hear a very interesting set of facts, different opinions and it is really important. And so I, once again, look forward to hearing testimony and to taking part in this very, very important process. Thank you.

Mr. CALVERT. Thank you, Mr. Saxton. We are pleased to have with us today the distinguished senior senator from Alaska, Senator Ted Stevens, who would like to make some comments on this issue which is of great importance to the state of Alaska. Senator, I know Chairman Young is happy that you are able to come here in his absence and he appreciates it very much. Senator.

STATEMENT OF HON. TED STEVENS, A U.S. SENATOR FROM ALASKA

Mr. STEVENS. Thank you very much, Mr. Chairman. It is nice to be back in this room again. I spent a lot of time in this room in the '50's when some of the issues that have just been discussed were reviewed by this committee. I am pleased to be here with you and members of the committee, Mr. Miller, again.

I am sad that my good friend Don Young, my Congressman, is not here. I did talk to him this morning. He is doing very well. He is no longer in the ICU, the Intensive Care Unit. He is feeling very well. I told him about some of my friends at home that had the same procedure, the stent. It works very well. I have known people who have had it, so it will be a great relief to him, I think, when he gets used to this new concept. He has been a great leader in this

area and I am sad that he is not here when I have this opportunity to appear before this committee once again.

I was the Assistant to the Secretary of Interior in 1957 when this area originally was set aside as the Arctic Wildlife Range. At that time, we were dealing with an issue that was very difficult for Alaska, and that was that the entire Arctic had been withdrawn during the conduct of World War II from all forms of activity. At the time we announced this designation of the area as a Range in November of 1957, I was Assistant to the Secretary of Interior, Fred Seaton. Later as Solicitor of the Interior Department I came up here and discussed the future of the Alaska lands with this committee.

I think it is important to note that the day that we announced that this area was set aside was the day that also opened the rest of the Arctic, other than Naval Petroleum Reserve Number 4, to mineral leasing. We established the largest wildlife range in the country of 9 million acres. At the time that that was announced—I want to submit this to you for your record—we, in creating the Arctic Wildlife Range, an enormous area of 9 million acres, specifically provided that that land was available for mineral leasing under stipulations approved by the Secretary of the Interior to protect the fish and wildlife. We also opened the balance of the Arctic, except for the public, the Naval Petroleum Reserve to mineral leasing in general.

I think it is important to note that the Arctic Wildlife Range, ultimately led to the creation in 1980 of the Arctic National Wildlife Refuge. At the time it was created, Senator Jackson, who was the principal proponent of the Alaska National Interest Lands Conservation Act (ANILCA), insisted and did protect under Section 1002, a million and a half acres of the ANWR Coastal Plain for oil and gas exploration.

We have this map here today to show you the location on the upper northeast corner of Alaska of the total area known as ANWR now, with the Coastal Plain in yellow. The 1-1/2 million acres that is set aside for oil and gas exploration was never wilderness. It was never withdrawn from oil and gas leasing. It had to have approval by Congress of an environment impact statement prepared by the Department of Interior.

We have had that Environmental Impact Statement before us for many years. I hope that you will keep in mind that 85 percent of all the Fish and Wildlife Service lands are in Alaska, 76 million acres in total. 68 percent of all the National Park Service lands are in Alaska, another 54 million acres; and 60 percent of all the wilderness that has been designated by Congress is in Alaska, 57 million acres. Senator Jackson was the leader in creating all that, and I would like to continue to remind people he was the one that said that it has to be determined whether the Arctic Coastal Plain can produce oil and gas.

The Arctic Coastal Plain has a fantastic potential. There is no question that we are now dealing with a national issue, as Mr. Saxton has said. And there are pros and cons. There are assertions on each side.

I have come today to try to deal with some of the history because I am one person in government that has lived through it all. And

I can never remember an action of the Federal Government that has denied that this area should be open to oil and gas exploration. It has never been closed since the days of the 1920 Mineral Leasing Act. Most people don't know that at the time that act was under consideration by Congress there were three teams in Alaska out up in this north country checking out the traces of oil that were found along the coast of the Arctic Ocean. Really, that action led to the 1920 Mineral Leasing Act, because there were some people that believed that those lands should not be staked under the Oil Mining Law but we should have a new means of making lands available for oil and gas exploration.

The difficulty came, of course, with World War II. The area was closed for that whole period. After World War II it was, as I said, 1957 before we got that Public Land Order 82 lifted, and by that time we had the request for establishing the Arctic National Wildlife Range.

That request originated, Mr. Chairman, with a request from the Fairbanks Women's Garden Club for action by the Federal Government to protect the flora and fauna of the Arctic while oil and gas exploration proceeded. Their letter, if you want that, specifically referred to the pressure they knew that was coming, and they wanted some action by the government to assure that when that went forward the fish and wildlife would be considered. They did not want the Arctic Coastal Plain closed.

The order issued in 1957 did not close it and no action taken by Congress yet has closed it. And we vigorously oppose closing it. As a matter of fact, we believe that this is an area of substantial interest to the Federal Government and to the people of the United States.

I remember so well when we tried to proceed with Prudhoe Bay, which is in the area you see on the map west of the Coastal Plain, we had this tremendous battle concerning whether we should be able to proceed. It just so happens that the state of Alaska selected under the Statehood Act some of those lands around Prudhoe Bay. We were not able to select the lands in the area at issue now because of the reservation of those lands by the order that was issued in '57 creating the Arctic Wildlife Range. We also felt we didn't have to select these lands because oil and gas leasing was permitted there pursuant to the 1920 act under regulations to be issued by the Secretary of the Interior.

Now we are here today because of the budget resolution. I hasten to comment, Mr. Vento, that the President of the United States, and we are indebted to President Clinton for this action, asked for the change in consideration of assets. He asked to be able to score assets because he wanted to sell Elk Hills and he wanted to sell the helium reserve. And Congress has acceded to that. This potential lease sale for oil and gas exploration in the 1002 area benefits from the President's suggestion. We are not capable of bringing that about alone or we would have done it a long time ago, and I was delighted to see President Clinton take that initiative.

With new technology we have to look at what we did in Prudhoe Bay. By the way, when you talk about Prudhoe Bay, remember, that we heard all of these arguments when we tried to get the pipeline right-of-way for the transportation of oil from Prudhoe Bay to

market in Valdez. All of the arguments, particularly one about the caribou, that we were going to destroy the caribou, came at us. It is just absolutely not true.

The Central Arctic Herd, which is the one that is in the vicinity of Prudhoe Bay, has grown from a herd of 3000 animals to somewhere in the vicinity of 23,000 animals. It no longer even migrates because of the positive changes that were made in the area when the University of Alaska discovered a new form of grass that could be planted up there after there was any intrusion. They now have such good feed that they don't migrate. At issue now is the even more prolific Porcupine Caribou herd. If this herd does in fact migrate, the Porcupine Herd migrates from the Gwich'in country over in Canada up to the Coastal Plain and back. As the Chairman has said, these animals are not in Alaska more than six weeks per year. The only reason they are there at all is to do their calving in and around the Arctic Plain. As a matter of fact, this year none of them calved in that area. I think it is noteworthy that the Central Herd that is in the Prudhoe Bay area do their calving right in the Kuparuk Oil Field. You can go up there. I invite you to come back, Mr. Vento, during the calving season and see them out there standing right among the rigs, right among the oil facilities. And they are there, they have their calves, and they are not disturbed. As a matter of fact, the Central herd have increased in numbers more than any caribou herd in the world. And people tell us that this operation at issue now is going to disturb the Porcupine caribou herd. It is not true.

Now when we deal with this, even since the day of developing the Prudhoe Bay, technology has changed. The drill pads at Prudhoe Bay were 20 acres apiece for every drill pad. Today the drill pad is going to be less than five acres. The total footprint of the oil industry to recover this oil if it is there—we believe it is—will be, as you said, Mr. Chairman, less than the land dedicated to Dulles Airport. Now we have—the oil industry has now planned and are seeking permits for what we call roadless drilling pads. The Prudhoe Bay pads were connected by roads and by pipelines above ground. Future drill pads and pipelines will all be below ground and they will be roadless. They will do this by helicopter.

We are dealing with a different situation now in terms of what we have learned, and we did learn, unfortunately, a lot from the *Exxon Valdez*, also, Mr. Vento. If you want to go back and look and see what we did after that, we required tugs for these tankers when they come into our waters. We now require them to be double hulled. We now have vessel traffic control for the vessels, and not just down to the Bligh Reef where the *Exxon Valdez* ran aground. We have it all the way out to where they enter the Pacific Ocean. We have control over these tankers now every minute they are in the Prince William Sound. They are escorted by tugs.

That was a terrible lesson we learned, but it should not determine the future, whether we look at this vast area for its oil and gas potential. At the time the state selected its lands, we thought we had a potential there at Prudhoe Bay. The Department of Interior had projected that there was a 99 percent chance that there was less than a billion barrels. We have now produced 11 billion barrels of oil from Prudhoe Bay.

The projections you hear today are from conservative people who make estimates in the U.S. Geological Survey. And I don't blame them for being conservative, but just think of this—we built the pipeline from Prudhoe Bay to Valdez. It has supplied, at the height of the Gulf War, 2.1 million barrels a day to the United States. As a matter of fact, it has been transporting 25 percent of the domestic oil to market.

It is declining now. It is down below one and a half million barrels a day. We have already lost 600,000 barrels a day because the production at Prudhoe Bay is starting to play out. It is not going to disappear overnight, but it is starting to play out. We believe it is absolutely essential to open this area now to oil and gas exploration so that we can keep that pipeline filled and we can provide the type of security that we need to have the oil production capability to meet our basic national needs.

Now let me close with this, Mr. Chairman and members of the committee, I am always concerned when I have to publicly disagree with some of our people. The Gwich'in people have been brought here, I think, by those who are extremists, who try to portray that they are being picked on by other Alaskans. Almost all Alaskans support what I am testifying for today.

I know that the vast majority of Alaska natives do, and you will hear from them, but the Gwich'in people come in with claims about the potential harm to this Porcupine Caribou Herd. They will not tell you that in the area of the Porcupine's home over in Canada there has in fact been oil and gas exploration. They will not tell you that they themselves sought to lease—and here I have got a copy of the lease—their own lands through which this caribou herd transit. And the caribou are there in the Gwich'in lands longer than they are on the North Slope, that they started to—they wanted to lease. They did lease their lands for oil and gas exploration. And in 1980 when the leases expired they tried again.

Remember, this is one of the three areas of Alaska that did not participate in the Alaska Native Land Claim Settlement Act. These people have their own reservation. They opted to take their own reservation, primarily because they are part of the Gwich'in from Canada.

The rest of the Alaska natives settled on an approved act passed by Congress to settle the claims of Alaska natives against the United States. The Gwich'in people took the lands that they had at the time under a semi-reservation status and made it their reservation. These people now are opposing all of their brothers and sisters in the native movement in Alaska, and I think that is wrong.

I particularly urge that you not listen to them with regard to the concept of whether we are going to risk the Porcupine Caribou Herd with the activities of the oil and gas industry in the Arctic Plain if it takes place. Now I think that it is time for us to get this done.

Even if we approve it this year, Mr. Chairman and members of the committee, it will be about 2005 before oil would be able to flow from this area, the Arctic Coastal Plain area, into the pipeline. By that time, the through-put of the pipeline will be down to about 100,000 barrels a day.

Let me take you back to the map. The pipeline coming out of the coastal plain does not have to go through wilderness to get to the Trans-Alaska Pipeline. That is another assertion I have just heard recently.

This is an area that has never been closed to oil and gas exploration and production. It is not wilderness. In order to get the oil out of the coastal plain over to our pipeline, the Trans-Alaska Pipeline, it can be done very easily without going through wilderness, and it would be, I think, very much in the best interests of the United States.

Now I will be glad to answer any questions you may have, Mr. Chairman. It is obvious that I still feel very strongly about this. I really did participate in the drafting, not only of the release that I am going to give you to put in your record, but of the order that created the Arctic Wildlife Range, and I know that we intended at that time that the whole area would be subject to oil and gas leasing.

Now, the only area that is going to be subject to oil and gas leasing is the million and a half acres. And it is part of the original area set as it will be open to oil and gas leasing, I trust, when Congress takes the action that we request this year.

I am grateful to you for your time and if you have any questions for me I would be pleased to answer them.

[1957 Department of Interior release may be found at end of hearing.]

Mr. CALVERT. Thank you, Senator. I don't have any questions, however I think several members up here would like to ask you some questions. And certainly if there is no objection, if your time permits after that period, you would be invited to join us here on the dias to ask any questions of any of our witnesses if you would like.

Mr. STEVENS. Well, that is an opportunity I have never had with this committee. I would love to do it, but the Defense Bill is on the floor, and as Chairman of the Defense Appropriations Committee, I think my place is on the floor during this debate on the authorizing of the bill.

Mr. CALVERT. Me, too. With that, I believe Mr. Miller would like to—

Mr. MILLER. Thank you, Mr. Chairman. And, Senator, welcome to the committee, and thank you for your testimony.

If I just might in the manner of a general discussion for a minute here, you stated, and I think correctly so, that we have learned a lot on both sides of the ledger from Prudhoe Bay and that the exploration and development industry is far different today almost everywhere in the world than it was when that venture was started. And it is certainly different even in Prudhoe Bay today than it was when it was started. And at the same time we have also learned a lot since the 1002 report was put out because that process has continued about the caribou.

And you mentioned that the herd at Prudhoe Bay has increased substantially. Some would suggest that it should have, instead of being 23,000 it should be 48,000. I am not doing this for argumentative purposes, but, I mean, a lot of data has changed. And that has to be considered.

And I think the chances of passing this bill and the signature are pretty iffy. And I don't know which way it is iffy, but I think it is iffy one way or the other. It is relatively close in the two bodies here on whether or not it could ever be made acceptable to the Administration.

One of my concerns is that at the moment this starts to appear to be sort of a budget-driven process. And as you know, there is a lot of emotion, a lot of interest on either side. And the questions about this herd of caribou that migrate and whether or not the core calving area is as we thought it was and whether it changes, and a lot of data that has come to light today in the technology of the oil industry, whether or not stipulations can be developed which in terms of surface occupancy, whether some of these areas can be beached out through directional drilling, that wasn't available in the early '60's but is today and well known and capable of doing those kinds of things, time of year, usage of lands is, you know, one of the early exploratory sites was developed in the winter and expensive to do it that way.

But I don't think the sponsors would have a problem with that. But the footprint of that site is almost indistinguishable from the surrounding area because of the way it was done and the care that was taken. And you have now talked about much smaller paths, use of helicopters, work done in the winter. Again, some data on this area suggests that may be somewhat more difficult because of a lack of snowfall compared to—and water that is used to build ice roads and the work that we have witnessed at Prudhoe.

I am just wondering how do we get a full debate and discussion around a number of these issues, because I am concerned at some point these stipulations and that start to take a hit on expected revenues that we have for the purposes of budget. And at some point, you know, how tightly is this linked into the process that we are going to go through later in terms of reconciliation. And this has been put into the budget for—what is the—this is assigned a figure in the budget. What is the—\$1.3 billion or something over the seven years?

Mr. STEVENS. That is just for leasing, Mr. Miller.

Mr. MILLER. I understand that, but that goes to where you are going to lease, and what is available and what isn't, and what is attractive and what isn't.

Mr. STEVENS. Well, they paid \$900 million just to look for the leases there on the lands at Prudhoe Bay, and that was 1966. You know, we are talking about a very small amount of money for this potential. It is discounted, I think, because of the probability that whoever gets those leases is going to have to live through a lawsuit. It undoubtedly will be brought, but I do think that there is a lot more money out there for these leases than you realize. You know, I disagree with you there. The lease—

Mr. MILLER. Well, that might be so, but I want to know to what extent we can deal with environmental concerns and using state-of-the-art technology which may diminish, eventually, the expected royalties and/or the value of the lease. It may be more expensive to develop, and they will make economic decisions when they bid like anyone else.

But my concern is that we are driven into holding onto a figure here that doesn't allow discussions of these other matters that are of concern to a great many people if development should in fact take place.

Mr. STEVENS. Well, those people should go up and go across the border in Canada and look at the Tuktoyaktuk area. You know, they have been drilling up there and drilling wells. They have drilled over 150 of them. They have drilled wells right up to the Canadian border, and we didn't hear any of this concern at that time. We only hear concerns when we start dealing with the Alaska Arctic.

This one area was set aside for oil and gas exploration. It was not set aside for wilderness, and what you are saying is we ought to apply to it wilderness characteristics.

Mr. MILLER. No, no. I am asking. I mean, maybe your answer is that you will not accept any stipulations on how this area is developed.

Mr. STEVENS. I never said that. As a matter of fact, I am one—

Mr. MILLER. That is what I am asking.

Mr. STEVENS [continuing]. one of the ones back in 1957 who said there ought to be stipulations to protect the fish and wildlife. We think we have done that. That is what has led to the smaller pad. That is what has led to the roadless pad. That is what has led to the concept they will drill only in the wintertime. That is what has led to some of the stipulations that are currently in effect at Prudhoe Bay itself.

Now we have not, as I have said, we have not allowed anyone to interfere with those caribou. The caribou around Prudhoe Bay are protected as well as any animals in this world. They have not been able to be harvested by the people who have worked there. They had to comply with Alaska laws.

The native people do. The native people take those caribou, and they are a substantial meat resource for them, that increase in that herd. It might well have been a doubling of that herd if it had not been available to the native people for taking the caribou for their own use.

But as a practical matter, we have those stipulations, Mr. Miller. They are in the negotiations that have been going on now since 1981 for proceeding for leasing on this land. They are ready to go now and we—there is no reason for any additional stipulations because due to the negotiation that has taken place already, they have reduced the size of the land to be used, they have changed the method of exploration.

Even the technology that has been developed, Mr. Miller, we used to talk about one out of nine wells being successful. You don't drill eight bad wells in the Arctic. It costs too much money. There is going to be one major well that will determine whether or not there is oil or gas there. And I think that is another thing you ought to keep in mind. This is not an area of rampant kind of drill a hole here and there and there. It just costs too much. These are deep wells, very deep wells.

Drilling through frozen subsurface permafrost is exceedingly difficult to do. It has high technology involved, and no one risks that kind of technology because of environmental hazards. They are not

making those mistakes, Mr. Miller. I would urge you to come up and take a look at what is up there now.

What is more, once you go look at some of the places that were the pipeline camps during the pipeline days and try to find them today. Come try to find them. Under our stipulations they had to close them down when the pipeline construction period was over. You go find where they were.

We restored the surface of that land. As I said, we made it better because we planted those new grasses that the University of Alaska developed. But people don't give us credit for being environmentalists. We live in this land. We are not going to destroy it. Those native people live up there, in particular, they are the predominant population. They believe in protecting their land, and we are going to do it very carefully. I do think we don't get credit for that.

Let me call you George. George, you and I know each other. I do not lie, and I have got to tell you I think if you bring people up, you would see what we have done.

Mr. MILLER. Senator, I will ask you some other day because obviously you missed the import of my question. It wasn't about what you have done or what you are prepared to do. We have got to ask a question if we are going to write a bill, if we are simply going to just say the area shall be open, that is probably—you are going to find that is an unsuccessful vehicle.

The question then is as to whether or not you take the best of what the industry is capable of doing in this today and you match that against both their technology and concerns that are being raised about some of the habitat site-specific in ANWR, and whether or not that can be dealt with and you can still meet your budget targets or whether or not the budget is going to come back to bite you in the rear end so that you can't do both of those, you know. And that is what I am saying.

If this was outside the budget process, and you were just talking about terms and conditions, it would be a different debate than if it is going to be driven by somebody's belief, in the Senate or elsewhere, that you have got to meet these hard budget targets, and then pretty soon they are saying well, we can't drill it that way and still give you this money.

Mr. STEVENS. I have to tell you, Congressman, and then I will not answer any more. I see the——

Mr. MILLER. I am assuming the best of both sides here for the minute. I am not asking——

Mr. STEVENS. Let me just put it this way. If I ever dreamed of a place which would be in a, you know, an enormous worldwide fishbowl, it will be the activities that take place on this land. You and I know that. Whoever drills this well knows that they are going to have 24-hour-a-day cameras on them. They are going to have 24-hour-a-day camera on whoever works there. This is going—this is the cause celebre now.

If we open this, you and I know it is the cause celebre. There will be no opportunity for mistakes. They can't afford mistakes. The reason the money is not what reflects the value that was offered for Prudhoe Bay, as I said, because it has already been discounted because these people know what they are going to face once they

try to exercise the rights we are trying to give them. This is going to be the model development of the oil and gas industry. You ought to come over to our neighbors across the Bering Straights and see how they drill wells and see how they build roads and see how they build pipelines, and you would see the difference.

Mr. CALVERT. I know the Senator's time is constrained. If anyone on our side would like to ask any questions and then—yes, the gentleman from Tennessee.

Mr. DUNCAN. Senator Stevens, I have noticed over the years that some of the people who proclaim the loudest their concern for poor and working people always never seem to want us to develop any of our natural resources, and yet it seems to me if we develop some of this oil and gas that not only would it provide jobs in Alaska but it would help poor and lower income people all over this country because they are the ones that are hurt the most if prices for oil and gas go out of sight. And I just wonder if you have noticed that same thing or what your thoughts are.

I read an article a few months ago that said the average income of a Sierra Club member was \$77,000 a year, the average income, which is about four or five times what the average income of the citizens I represent is. And so some of these environmental extremists seem to be wealthy enough to be insulated from the harm of their policies.

I just wonder if you think that this development of ANWR could help the poor and working people of this country.

Mr. STEVENS. It certainly will. And we estimate the minimum 735,000 jobs nationally would be created by the movement to explore and develop the Arctic Plain. And I share with you the viewpoints about those who are dilettantes in terms of environmental protection. I used to ask them when they became before Senate committee in years gone by how they got to Washington, did they fly a jet or did they walk, how many cars did they have in their garage. We have too many examples of people that have private airplanes and their own private gas reserves who complain about the increased consumption of gas by the United States citizens.

You are right on. In our state I represent—90 percent of our people work for small businesses. And most of those small businesses are associated with some type of resource development, whether it is mining oil or gas, timber, fishing. We are people who are related as working people to large industries, and we know we need this one opened because of what is happening to our economy.

85 percent of the money that we use to support schools in rural Alaska comes from the current income we receive from the production that is carried through the Alaska oil pipeline. That is decreasing. We are going to have to start closing schools. We are going to have to stop some of the programs we have for assistance to these people who live in these rural villages. It worries me very much.

We will pass—even with the passage of this bill, there is going to be a dip in that income a long time before it goes back up again. There are going to be a lot of native kids that don't go to college because we didn't do this ten years ago.

Mr. DUNCAN. Well, I will simply say that I think if we could develop some of these resources that it would help, like I say, the middle or lower income people even in Tennessee where I am from.

And let me just ask you one other brief question. What percentage of the state of Alaska are you talking about working in here?

Mr. STEVENS. We are 375 million acres and this a million and a half acres. It is about one-third of one percent of Alaska when you are talking about the million and a half acres.

Mr. DUNCAN. One-third of one percent?

Mr. STEVENS. And of that area, as I said, of the million and a half acres less than one-tenth of one percent of that will be touched by this development.

Mr. DUNCAN. I thought you probably would have—

Mr. STEVENS. Well, a thousand acres.

Mr. DUNCAN. I am sorry I didn't get to hear your testimony earlier, but one-third of one percent and less than what, now?

Mr. STEVENS. 1200 acres is what they tell us will be needed out of—pardon me, 12,000 acres out of a million and a half will be needed for the actual development once they have located the place to start the production.

Mr. DUNCAN. All right.

Mr. STEVENS. A very, very small area. The size of Dulles Airport in an area that is one-fifth the size of the United States.

Mr. DUNCAN. All right, thank you very much.

Mr. STEVENS. Thank you.

Mr. CALVERT. Thank you. The gentleman from New Mexico has unanimous—

Mr. RICHARDSON. Mr. Chairman, I just would ask unanimous consent to insert my statement in the record expressing concern over drilling in ANWR.

Mr. CALVERT. Without objection.

[Statement of Hon. Bill Richardson follows:]

STATEMENT OF HON. BILL RICHARDSON, A U.S. REPRESENTATIVE FROM NEW MEXICO

Mr. Chairman, as we meet today to discuss expansion of oil exploration in yet another pristine natural environment in this country, I would like to remind my colleagues of the devastation wrought by the *Exxon Valdez* accident in 1989. At that time, more than 10 million gallons of oil were dumped in the beautiful waters of Prince William Sound off the coast of Alaska. Although this single biggest oil disaster in our nation's history was less than 10 years ago, we are here today to consider the opening up to oil exploration of yet another undisturbed natural resource.

The new oil and gas development pondered by this hearing comes on the heels of House passage of H.R. 70, which would stimulate new oil production in the areas of Alaska which currently sustain oil exploration and development operations. Despite this huge new mandate for production, which I supported in Committee and on the Floor, today we're being told industry wants more. Ninety percent of the Arctic coastline is already open to oil exploration or development. Is it really too extreme to protect 10% of this spectacular natural wilderness for the benefit of all Americans?

The American people certainly do not believe that protection of ANWR is too extreme. In a nationwide survey of 1000 voters, conducted just two weeks ago, voters strongly opposed allowing oil drilling in the Arctic National Wildlife Refuge even if funds derived from such activity would be used to reduce the deficit. When asked if the government should allow oil drilling and exploration in ANWR, voters rejected the idea by more than three-to-one: 57 percent were opposed and only 17 percent were in favor. Seventy percent agreed that protecting this area should be our first priority while only 20 percent believe that we should use the fees from oil drilling to help reduce the deficit.

The coastal plain was part of the original wildlife range established by President Eisenhower in 1960. All of the original refuge was protected as wilderness by the Alaska Lands Act, except the coastal plain area. Even then, the House of Representatives voted twice to make it wilderness.

The Arctic Refuge is the only conservation system unit in North America that protects, in an undisturbed condition, a complete spectrum of arctic and subarctic ecosystems. The coastal plain is unique not only to the North Slope, but to the World and is the biological heart of the refuge. Many biologists refer to it as the American Serengeti in recognition of the rich diversity of wildlife which it supports.

Ambassador Raymond Chretien of Canada has written to me of his government's opposition to the approval of oil and gas exploration and development on the coastal plain. Per the Ambassador's request, I seek unanimous consent to insert his letter into the record for today's hearing.

Unlike Prudhoe Bay, the coastal plain is the nation's most significant polar bear denning habitat on land, supports up to 300,000 snow geese and the very concentrated Porcupine caribou calving ground. The 1987 "1002" Report to Congress submitted with the Environmental Impact Statement concluded there would be major negative effects to the Porcupine caribou herd, muskox, water quality and quantity, subsistence, and wildlife from leasing and development of the Arctic Refuge coastal plain.

The 1987 study of the area by the Department of Interior found that there was only a 1 in 5 chance of finding oil in the coastal plain, and a one in 100 chance that a Prudhoe Bay-sized field would be found there. Even if oil were found, experts estimate full production of the field would likely only provide enough oil to satisfy two percent of U.S. oil needs, or a total of 200 days' worth of oil.

What price do we put on our natural places? What price do we place on our history? What price do we place on wilderness and wild things? Certainly, our nation's heritage is worth more than six months of oil.

In closing, Mr. Chairman, I would like to commend you for bringing this issue to the attention of the Committee. I realize we have different views on the protection of the Arctic National Wildlife Refuge, and I hope we can work together to support responsible oil and gas development while protecting our environment and our nation's natural heritage. Thank you.

[The letter submitted may be found at end of hearing.]

Mr. CALVERT. The gentleman from California.

Mr. FARR. Thank you very much, Mr. Chairman. Senator.

Mr. STEVENS. Yes, sir.

Mr. FARR. I am very—I tend to agree with you that if indeed this is opened up technology and conditions will prevail in doing, sort of, the best management practices. You have been involved in this debate for a long time. You have essentially the resource. We have the people that are dependent on it in California. I have often said that oil is the drug of the industrial revolution. You are the supplier. We are the user.

One of the concerns I have is that we have not done a very good job in public policy in really allowing the revenues derived at the Federal level to be utilized by the communities that have the adverse impact, the overdependence on automobiles, the air pollution that it causes and so on. And I am concerned we have in the Federal Government—you talked about Alaska having revenues and you have a pretty good program there in Alaska. The state allows the state revenues to get right into the pockets of people in your dividend.

But in our conservation efforts we have created this oil—I mean, the Land Water Conservation Fund, we have \$11.2 billion in that fund. We are only appropriating \$50 million. My concern is if these revenues keep coming back into the same pot they really aren't reaching the environmental needs that we need to pay for. California hasn't been approving bond acts and yet we have 32 million people that need to recreate. We need more money to buy more land and to do more efforts. And I am concerned that we will not find a better way to get those revenues into the hands of users. And I wondered if you had ever thought about developing better

Federal policy to ensure that state and local governments could benefit from the resources derived if indeed ANWR is opened up?

Mr. STEVENS. Well, as a matter of fact, it was at the time when we were thinking about trying to bring the oil pipeline—the oil ashore in California and put it through the Old El Paso Gas Line and send it to Texas so it would not have to go down and go around the Horn or else build a pipeline through Panama, at that time we had—I conducted some hearings in Los Angeles and we were looking at trying to create a fund that would be derived from the savings if that had happened. It would have been substantial savings, all the shipping down there and the pipeline was built and so many costs were incurred. We were looking at trying to find ways to assist in the area. I remember that we got the statistics on the number of plants there in the Long Beach area that were very polluting, drycleaning plants and whatnot. We were trying to create a fund to contribute to the area that might be impacted onshore to the oil that was coming from our state. It is like any other coming from offshore.

I don't know why we don't do that with oil that comes in from offshore. We let 50 percent or more of our oil that we consume come in from offshore and it pays nothing toward what it costs us onshore. I agree with you, but we have not been able to do that, primarily because we do have the Superfund. We had funds that were created to deal with it on a national basis, albeit in a different way.

We were looking to try and deal with it in California, obviously to get some support for what we wanted to do, and that was reduce the cost of transportation. I think that we ought to look to find ways where we save money from the system to do what you suggest.

Mr. FARR. My point is that I don't think we ought to allow this money to come to the Federal Government and sit here in Washington so that we can use it for deficit reduction when it can't get down to the need of the communities and that we ought to come up with a new paradigm of how money resources can be given directly as we do in duck stamp money, as we do in trust fund moneys in the oil and in the highway funds. We need to have money that—the process ensures that the revenues get to the communities. And we haven't devised that system very well yet at the Federal level.

Mr. STEVENS. Well, you know, not far off the mark I one time suggested we ought to take part of the money we get from tobacco taxes and dedicate it to the veterans hospitals which are full of people that had too many cigarettes during the war. You know, I think there is a similar thinking out there with a lot of people that we ought to find some way to deal with problems directly rather than to bring the money in here and devise ways to deal with problems generally. And I don't disagree that you should think about it. I don't know how we can participate in that now. We were knocked down in our attempt to try to help in California with regard to pollution reduction in exchange for the ability to bring our oil ashore there.

Mr. CALVERT. Thank you, Senator. I think we may have time for one more questions. Maybe—OK, let us try to make it brief because I know the Senator was in a hurry. So, the gentlemen——

Mr. STEVENS. I talk too much for someone——

Mr. CALVERT [continuing]. Maryland and then——

Mr. GILCHREST. Thank you, Mr. Chairman. Good afternoon, Senator. Your testimony is striking and informative. I have a question about the royalty split. Understanding the royalty split on state land, the royalty split on Federal land at this point and the royalty split, which I think I am correct is 50/50 on 1002, is there any effort on your part depending on what the suit is on Federal lands to change the split on 1002.

Mr. STEVENS. Well, that is a very interesting question. Before we got statehood, revenues from Federal lands were split with western states 52-1/2 percent to the states and 37-1/2 percent went to the Reclamation Fund, 10 percent went to the Federal treasury. Since we were not going to have any reclamation projects, the territory of Alaska was granted 90 percent to pay to the territory of Alaska and 10 percent to the Federal treasury of any income from Federal lands. You have got to remember that there were none, so it was 90 percent of nothing, right.

Now when we got statehood, this committee put that bill that was part of the territorial, Federal Territorial Law, it was an addendum to the Mineral Leasing Act, really, into the Statehood Act. Contrary to the procedure for every other act, statehood act, the Federal Government required that the Alaska people vote to accept the Statehood Act. It became a compact with the Federal Government because we gave up rights that other western states had in order to become a state. That compact was entered into.

One of the benefits we got was 90 percent of the revenue from oil and gas. Now since that time, the split has been changed. It is 50/50. The money no longer goes into the reclamation fund. 50 percent goes into the Federal treasury. 50 percent goes to the western state. That is the provision that is in the bill now that is being considered for this act. Alaskans have not accepted that yet.

Frankly, there never will be a court case until we some time get less than 90 percent. Our statehood act, which is a compact with the United States, says we get 90 percent of the revenues from oil and gas on Federal lands. The Federal Government now says we get 50 percent and the Mineral Leasing Act generally was changed for all western states to 50 percent. We do not believe that changed it for Alaska. The court may disagree with us. We will have to pursue that.

But in any event, we have agreed for the purpose of this concept here that the leasing provisions under this bill will be 50/50.

Mr. GILCHREST. Thank you.

Mr. CALVERT. Thank you, Senator.

Mr. VENTO. Thanks, Mr. Chairman. Senator, I know you have to go. I don't want to keep you. I just wanted to at least chime in on some of the opinions and views that you expressed with regards to Alaska.

I was claiming poverty with 104 million acres of land to the state and 44 million to the native Americans. I think it is an extraordinary amount of land. It is twice the size of my state of Min-

nesota. I recognize that it gives a substantial base to the population of Alaska, and I understand the importance of Federal land policy. I was here in the late '70's. We worked in Alaska lands. I can't claim the length of service that you can with regards to working on those issues or the assignments in the Administration, but I am quite aware of the importance of this acreage.

And, you know, we want to make the right policies with regards to this. I am reminded of the fact that just this week or late last week an announcement was made in regards to the purchase back of Bristol Bay leases because of the environmental concerns. So the fact is in the past we have made some mistakes with regard to this. There are values that are sometimes more important than leasing in terms of the fisheries and the other resources. We are certainly reminded of that and have a lively debate going on in the Pacific northwest today because of it.

Similarly, I think Alaska has been prudent in establishing a fund for its revenues that come from the mineral resources, oil and gas and others, a \$15 billion fund that exists today to smooth out the variations in income. You know, I think that obviously living in Alaska is a different world than most of us face in terms of state taxation.

And I was interested to hear that you are embracing the Administration with regards to the OMB and its asset sales. I wonder if CBO is going to take all the Administration's recommendations with regards to dynamic scoring. I don't think it would be prudent. And I think it is a high-risk option, incidentally, putting it into reconciliation. I don't agree with the basic policy and I think that some of the environmental concerns which you have expressed and embraced here today would not likely be within the context of reconciliation.

I note that today we are having a hearing. We are not even having a hearing on any legislation. We are only having a hearing on the discussion of the budget implications and the change. There is no legislation today before the committee in terms of what the policy is going to be.

I further wanted to comment about the Gwich'in and the entire exposure. I don't know, I suppose the first one that hasn't committed any error could step forward and make the statement. I don't know that it would be me. I won't make a judgment, but I don't think there is any denying that the Gwich'in do in fact utilize the caribou, this Porcupine herd, as a subsistence source of income and food and so forth.

And the issue here, of course, is the whole dynamic of the fauna and flora, not simply whether you can produce more caribou or less caribou. A non-migrating herd, I think, says a lot to those of us that claim some knowledge of biology in this process.

So, Senator, as I said, I don't want to keep you. Your discussion of the fact that it is only 12,000 acres, that doesn't occupy much of the ocean area, but it has a big impact in terms of what gets snared in the nets. I mean, the idea of how much space is occupied here really understates what the impact of this will be. It will be substantial. There are any number of treaties and other agreements we have and other types of species that are impacted by it. I know Polar bears don't get along too well with people. There are

a small number in this area, but it is one of our only areas in America, in the United States that has, for instance, this species present. We have, obviously, agreements with it.

So I don't know what is going to happen in the end. Like you say, it is 13 years. Maybe they will drill a well. I think the prospects of what is going to be discovered here have been overstated and the fact is that we can't get all the information. JAO couldn't get it from the Exxons and from British Petroleum and the many others that have an interest in this issue. We don't have any large scale example of the type of environmental safeguards that you are talking about occurring in the 12,000-acre area. Maybe that is as it is because no new oil fields have been opened in recent years in these areas, but there are many, many unknowns and at the very least that is why I am pursuing the position I am.

And I think it is time to resolve it. And I am not dissuaded by your rather passionate and articulate defense of opening this and advocacy of opening it. I did want to share that with you before you departed. I appreciate you being here. I think it underlines the importance of this to the state of Alaska.

Mr. STEVENS. Well, I thank you very much. I don't want to prolong it either. We have land we got in the Statehood Act. Don't forget we could not select it until the Federal Government took its first, our land first. In 1980 we got our selections after all these other reservations. So if you want to look at a map that shows where minerals are, where oil and gas potential is, come we will show you the map. And the wilderness areas, all these other areas overlie the great mining districts, the oil and gas potential. We didn't get to select that as state's. The only area we selected as a state before all that started in 1980 was the Prudhoe Bay area.

Other than that, I understand you, we are at disagreement. The great thing in our country is we can disagree. I only say that the result of our disagreement has been now since the oil income has started going down slowly but surely our state is being strangled. And it is being strangled by overregulation from the Federal Government.

We have—we had an agreement in 1980 to get an environment impact statement, let Congress approve the findings of the Secretary of Interior and you can go ahead with oil and gas leasing in the 1002 area. Congress has reneged on its commitment. It was never fairly reviewed. This committee never voted on that. We have not been able to get a vote since the first environment impact statement was made following the 1980 law.

All we are asking for is fairness. We are asking to be treated like Americans. That was an agreement we made. That bill just cut our throat as far as the number of lands, amount of lands that were taken from us that were ours under the Statehood Act. We had the right to select 103.5 million acres of vacant unappropriated, unserved lands. After the Statehood Act passed the Federal Government reserved more than 100 million acres. Now you ask yourself what would the people of your state do if that happened to you.

We have been seriously harmed, I think, by the decision that was made in 1980 to withdraw those lands. The only thing in that bill that was in our favor was that, the Jackson Amendment. They gave us the right to explore the 1002 area. And Congress has not

kept its word on that. This Congress has the ability now to keep the word the Congress gave us. That report was favorable. It was made three times and it should be approved by Congress.

Thank you very much, Mr. Chairman.

Mr. VENTO. Mr. Chairman——

Mr. CALVERT. Thank you, Mr. Stevens.

Mr. VENTO [continuing]. the Senator has to leave. I would just say that, you know, obviously there is a difference on what the word was. The House twice passed legislation that designated this wilderness. The legislation prohibits development without the action of Congress.

Mr. STEVENS. Well, that is the point. It didn't have the authority to do that. All it had the authority to do was to approve or disapprove the environment impact statement.

Mr. CALVERT. I would like to thank the Senator for coming today and testifying.

Mr. ABERCROMBIE. Mr. Stevens, Senator. Mr. Stevens——

Mr. CALVERT. And we appreciate your testimony.

Mr. ABERCROMBIE. Senator Stevens.

Mr. CALVERT. Thank you very much.

Mr. ABERCROMBIE. If I might?

Mr. STEVENS. Yes, sir.

Mr. ABERCROMBIE. From Hawaii, I just want to say to you as one of the other states, a sister state to Alaska, I appreciate your sensitivity and all the work that you have done on behalf of the people in Hawaii, and we will certainly take into account what was said today and we will do our best.

Mr. STEVENS. Thank you, sir.

Mr. CALVERT. Thank you, Senator.

Now, we would like to hear from the government witnesses. The first panel is Mr. John Leshy, the Solicitor of the Department of Interior; Mr. John Shively, Commissioner of the Department of Natural Resources of the State of Alaska; and Mr. Delbert Rexford, representing the North Slope Borough.

Now this is going a little longer than we anticipated, so in the interest of time I would ask that you limit your oral remarks to no more than five minutes, less if possible. Your entire statements will appear in the record. We will be using the lights in front of you. When you see the yellow light you will have one minute remaining.

Mr. Leshy.

STATEMENT OF JOHN D. LESHY, SOLICITOR, U.S. DEPARTMENT OF THE INTERIOR

Mr. LESHY. Thank you very much, Mr. Chairman, members of the committee. I will be as brief as I can.

The Secretary of the Interior very much wanted to be here today. He was unexpectedly called away by the death of a close friend. This is a very important issue to him and so I am here to state the Administration position on maintaining the integrity of the Arctic Wildlife Refuge.

The Secretary urges this committee to follow these hearing with a full debate on legislation that is independent of the budget reconciliation process. We agree with the sentiments of Congressman Miller that the fate of the Arctic Refuge is a matter of great na-

tional significance and should not be summarily treated by this Congress as just another revenue item.

The Clinton Administration strongly supports the domestic oil and gas industry. We have supported efforts in the Congress to increase oil recovery in deep waters of the Gulf of Mexico through appropriate royalty incentives. We have supported repeal of the ban on exporting Alaska crude oil subject to condition in order to increase production in Alaska and prolong the life of the existing oil fields. We have conducted a number of extremely successful outer-continental shelf oil and gas sales and we plan to conduct more. We have leased more onshore oil and gas acreages annually than the previous administration. We have worked cooperatively with the industry to address ongoing problems and issues and streamline necessary regulatory oversight.

Yet this Administration opposes allowing oil and gas development on the Coastal Plain of the Arctic Refuge. And the Secretary would recommend to the President that he veto any legislation that would authorize it.

Let me add in response to Senator Stevens' comments that Congress decided in 1980 by law that there should be no exploration or development of the Arctic Range without further action by Congress. In other words, this Administration could not lease and develop this area if it wanted to. It does not want to and it opposes efforts by Congress to change the current law to allow leasing exploration and development.

The Administration believes it is in the best interests of the people and the industry to follow a balanced energy policy consisting of promoting exploration and development, protecting our natural heritage, promoting energy efficiency. So far the proponents of drilling have not offered to consider the refuge in the context of an overall national energy policy. They ask us to offer up this last protected part of the Arctic coastline, a small part of—as a small part of a plan to eliminate the deficit and balance the budget.

The refuge here, the Coastal Plain, is the last protected fragment of the great Coastal Plain where America goes down to the coast—I am sorry, to the Polar Ocean. The Refuge is the crown jewel of the National Wildlife Refuge System. The Coastal Plain is the biological heart of the refuge. More than 85 percent of the Arctic Coastal Plain has already been opened and is now opened to oil and gas exploration and development.

The story of Prudhoe Bay is well known. Less well known is the fact that the entire area west of Prudhoe Bay, all the way to Bering Sea, is also open for oil development. The oil companies could go west from Prudhoe Bay under existing law. Indeed, there is growing interest on the part of some companies to go west, but they are clamoring to go east, straight into this last protected fragment of the Arctic Slope. They are now asking for the right to invade this last Arctic sanctuary for what under the most optimistic estimates would be the equivalent of about six months of national oil consumption.

Recognition of the unique wilderness character of the refuge goes back a long way. Senator Stevens spoke of the origins. President Eisenhower's Secretary of the Interior first preserved the Arctic Refuge by order and called it one of the most magnificent wildlife

and wilderness areas in North America, a wilderness experience that could not be duplicated elsewhere.

In 1978 Cecil Andrus pointed out that minerals are finite. Production in this area inevitably means changes where impacts will be measured in geologic time in order to gain marginal benefits that may last a few years. He opposed oil and gas development of the refuge.

Secretary Babbitt spent time there in 1993 and his experience there convinced him more than ever that the area should not be open to exploration and development.

It is easy to see why Americans want this special place protected. It is harder to understand why we should want to develop it. The proposal to develop oil on the refuge is most often justified on national security grounds, but no single oil discovery, even a very large one, can fundamentally alter our nation's oil security situation. We are much better off, as we have done in the past, to promote energy efficiency and other mechanisms than to pursue additions to domestic supply at such a cost to the environment as here.

I should also point out that the revenue estimates in receipts under this bill, we have great concern that they are simply wishful thinking. As was discussed in the colloquy with Senator Stevens, the state of Alaska is actually now in court arguing that Congress has no power to change the 90/10 revenue split. They had filed the lawsuit a couple of years ago. We are defending that lawsuit. If they win that lawsuit and in fact it is beyond Congress' power to change the revenue split, then the revenue estimates from opening up the oil and gas—from opening up the refuge will be dramatically reduced because the Federal treasury will only get 10 percent, not 50 percent.

World oil prices, of course, are really at a nearly all-time low, lower than they were in real dollars than in 1973. And this obviously also affects the revenue estimates and Congress needs to take that into account.

I see my time is up. I will be happy to answer questions. Let me just conclude briefly by saying that the Secretary strongly urges the Congress to reconsider its rush to lease the Coastal Plain of the refuge. The Secretary believes strongly that opening this refuge to oil drilling is the equivalent of offering Yellowstone National Park for geothermal leasing or calling for bids to construct hydropower dams in the Grand Canyon. It is that important. We can surely find a better way to produce energy and conserve our national heritage. Thank you very much.

[Statement of Bruce Babbitt may be found at end of hearing.]

Mr. CALVERT. Thank you, Mr. Leshy. Mr. John Shively, Commissioner of the Department of Natural Resources with the State of Alaska.

STATEMENT OF JOHN SHIVELY, COMMISSIONER, DEPARTMENT OF NATURAL RESOURCES, STATE OF ALASKA

Mr. SHIVELY. Mr. Chairman, my name is John Shively. I am the Commissioner of Natural Resources, and I am here today on behalf of Governor Tony Knowles. Thank you for submitting the written testimony for the record.

I think a couple things on introduction. Governor Knowles is a Democrat. Three out of the last four governors of the state of Alaska have been Democrats. All three of those governors have supported the opening of the Arctic National Wildlife Refuge for potential exploration, and development, so in Alaska at least this is a bipartisan issue. It is not a partisan issue.

I would also like to say in opening that some people, I think, have tried to make this an issue of oil versus caribou, you know. It can—and I will have to tell you if we believed in Alaska, particularly this administration, that if the choice were oil or caribou, we would choose the caribou. We just do not believe that that is the choice here. We believe that you can have responsible development at ANWR and you can protect the caribou herd. And we think our experience at Prudhoe Bay shows that.

Now why are we here debating this? We are debating it because although, as the Secretary has represented and pointed out, a great deal of the Arctic's coast is open to oil and gas leasing, the biggest part of it, what is known as the National Petroleum Reserve, is controlled, I believe at this point, by the Secretary. They have held no lease sales recently and the last lease sale they held nobody showed up for because people are concerned that there really is not potential there.

The reason that we are here debating this is because after Congress authorized some minimal seismic exploration of the 1002 area it was clear that there were some major geological structures there that show the potential for large Prudhoe Bay type oil fields. And that is why the interest in ANWR. And of course nobody knows. We could sit here and debate for the next 30 weeks how much oil the U.S. Geological Survey thinks and how much BLM and how much I think, but nobody knows until it is drilled. And so what we are asking for at this point is the right to have it leased to go in and explore.

Now exploration will take place in the wintertime. It will have really no environmental damage and certainly will not interfere with the calving which takes place for three weeks in the spring.

If there is no oil, then there is really no debate about the Coastal Plain because people will go away. If there is oil, we are convinced that it does have a national impact, it does help reduce our reliance on foreign oil, which has now grown to over 50 percent. At the time—I might point out at the time of the embargo in 1973 we were at 36 percent and we know what the embargo did to our economy then, so we can imagine what one will do now.

Alaska has contributed about 25 percent of the nation's domestic oil supply since 1977. Our percentage has remained about the same, but the national production of oil has gone down. And that is the reason we are more reliant on foreign oil right now.

The other, I think, major public policy reason that this committee should consider in opening ANWR is we have a huge national asset in the Trans-Alaska Pipeline. That asset can carry over 2 million barrels of oil a day. This year it will average about 1,050,000 barrels a day—1,500,000 barrels a day, and that is going to decline over the years. So there is room for that oil. And if indeed Prudhoe Bay declines at faster rates than people are presently predicting, the actual operation of that pipeline could be in jeopardy.

We also think that the development of ANWR has potential economic positive aspects for the whole nation's economy. In a study we had done in 1990, we showed that since 1980 over \$22 billion has been spent on the development of North Slope. And remember, after 1980 is after the pipeline and after the development of the initial oil field. That \$22 billion was spent at every state in the union. So we are not just talking about Alaska here. We are talking about economic impacts nationwide.

We are firmly convinced in Alaska that this resource, if it exists, can be developed in an environmentally responsible manner. If it couldn't, we wouldn't want to develop it. So I think the issue is ripe for a decision by Congress and we support our Congressional delegation in their desire to see the 1002 are opened for exploration and development if there is any oil.

Mr. Chairman, thank you very much.

[Submitted material from Governor Tony Knowles may be found at end of hearing.]

[Pamphlet on ANWR was placed in the hearing files of the committee.]

[Statement of John Shively may be found at end of hearing.]

Mr. CALVERT. Thank you, Mr. Shively. Next, Mr. Delbert Rexford representing the North Slope Borough.

STATEMENT OF DELBERT REXFORD, NORTH SLOPE BOROUGH

Mr. REXFORD. Thank you, Mr. Chairman. For the record, my name is Delbert Rexford, Special Assistant to George N. Ahmaogak, Sr., Mayor of the North Slope Borough in the State of Alaska. I come before your committee today in support of legislation to open up the Coastal Plains of the Arctic National Wildlife Refuge to oil and gas exploration and development. I would like to take a few minutes just to inform you and share with you my home, the North Slope Borough.

The North Slope Borough encompasses 89,000 square miles of land mass from the Canadian border to the Chukchi Sea to the west. There are 6,500 residents, a large majority being Inupiat just like me. Our borough is the largest municipality in this country, if not in the world. It is made up of mountains, rivers, permafrost covered tundra and 2,600 miles of Arctic coastline.

Again, a large majority of the residents of the North Slope are Inupiat Eskimo. Out of the 6,500 I estimate that 85 percent are Inupiat. Like myself, Inupiat Eskimos live in the North Slope Borough. Like our forefathers and our ancestors who lived on the land for thousands of years in what was termed and still is termed a harsh, barren, flat, cold desolate land. But that land is our home and it has been our home for centuries. Like most of my people, I am a subsistence hunter. I whale. I hunt seals, waterfowl, caribou, fish through the ice in the rivers and the lakes to help supplement the nutritional needs of my family and my extended family members. I am passing on the tradition of subsistence hunting and living off the land to my children and my grandson. The tradition of subsistence activities is important to us and it will always be. Inupiat people have no desire to harm the environment, the ecology, the habitat of the wildlife that they depend on that sustains their culture.

Some people state that the Coastal Plains of the Arctic National Wildlife Refuge are pristine. This is not so in some cases. Congress is aware that the military sites, the DEW Line Early Warning sites, were constructed during the Cold War era. These facilities still exist within the ANWR region.

The Coastal Plain is also the subsistence traditional hunting grounds of the Kaktovik Inupiat people. My great uncle, Herman Rexford, and my uncles Fenton and Eddie still live off the land. They have a right to have a voice in this matter as the opportunities for economic growth, jobs for their people and a brighter future are in question. And they should be represented here.

Kaktovik Inupiat Corporation shareholders supported the development and exploration of oil and gas in ANWR through a resolution overwhelmingly without objections. The benefits of oil and gas to the borough are numerous, just to begin: basic life, health and safety services, sanitation delivery, fire and police protection, search and rescue operations in a country with 89,000 square miles to save a single life is tremendous, also the educational facilities, the infrastructures that have been constructed, millions of dollars worth of facilities to educate our children, our Inupiat children, our future. They need the support of Congress as we embark on the future of our people.

Through the base, our tax revenue base, we receive no royalties and therefore by taxing oil and gas properties we are most fortunate to have a revenue base to provide and improve the quality of life to over 6,500 of our residents.

Oil development can coexist with the wildlife, with the environment and the habitats. This is proven from the early 1970's when I had an opportunity to work on the Trans-Alaska pipeline. I had an opportunity to work in the Prudhoe Bay oil field and then in the 1980's when the North Slope Borough committed their efforts to improve technology and to centrally locate infrastructures so that the footprint technology would be improved. And now the Endicott project. That is a new technology that we can look forward to to minimize any environmental, ecological or habitat impacts, potential impacts.

As Inupiat we have been the stewards of the land for centuries and we feel that our land management regulations in the North Slope Borough Municipal Code adequately address any environmental, ecological and habitat concerns. We are involved in the day-to-day implementation of policies, of permitting and working with the oil and gas industry to assure that residents and their lifestyle are not adversely impacted. We need prompt ANWR exploration and leasing. It is in the best interest of not only the North Slope Borough as a home-rule government providing basic life, health and safety services to its constituency, but also to the people of the state of Alaska and the citizens of the United States.

The other issue that I would like to strongly encourage Congress to consider is Impact Aid to the impacted community. Kaktovik Inupiat Corporation and the residents of Kaktovik number in 250 people. If and when development and exploration occurs, there will be social impacts. We encourage that Impact Aid be provided to those impacted communities similar to the NPRA impact funds

that were appropriated to the communities of Atkasuk, Nuiqsut, Barrow and Wainwright under the Sheffield Administration.

Mr. Chairman, in closing I would like to conclude my remarks on behalf of the people of the North Slope. I appreciate the opportunity to present this testimony to your committee. As the Mayor's Special Assistant, I can state decisively that the vast majority of people of the North Slope enthusiastically support the presence of the oil industry on our lands.

Opening the small, 1.5 million acre Coastal Plain of ANWR to oil and gas leasing and exploration is the right thing to do. This conclusion is based on both analysis and 25 years of experience at Prudhoe Bay and other North Slope oil fields. As I discussed about, the potential resources of ANWR's Coastal Plain are of critical importance to the future of current North Slope Borough residents, the future of their children and the future of generations yet to come.

On behalf of Mayor Ahmaogak and all the residents of the North Slope, I implore this Congress to make the only logical, rational and reasonable decision it can on this issue. Vote to open the Coastal Plain of ANWR to environmentally sound and properly regulated oil and gas leasing exploration and development.

Mr. Chairman, I thank you for the opportunity to address this committee. Thank you very much.

[Statements of Mayor George Ahmaogak and Delbert Rexford may be found at end of hearing.]

Mr. CALVERT. Thank you very much, Mr. Rexford. I appreciate your testimony.

Mr. LESHY, have you ever been to ANWR or the Coastal Plain?

Mr. REXFORD. Yes, I have on a number of occasions.

Mr. CALVERT. I was asking—excuse me, the question was to Mr. Leshy.

Mr. REXFORD. I thought I heard Mr. Rexford. Excuse me.

Mr. LESHY. Mr. Chairman, no, I have not. The Secretary has been there, spent a few days there a couple of years ago.

Mr. CALVERT. Is oil development presently taking place in any of our natural—excuse me, National Wildlife Refuges?

Mr. LESHY. Excuse me, I will have to consult on it. Yes, I think there is some limited oil development in the Kenai Refuge south of Anchorage.

Mr. CALVERT. If, hypothetically, ANWR development was enacted into law, would the Department cooperate by offering the appropriate area for leasing?

Mr. LESHY. If we were directed to do so, we would certainly comply with the will of Congress and carry out the law.

Mr. CALVERT. Thank you. Mr. Rexford, have the residents of the North Slope Borough always supported oil development?

Mr. REXFORD. No, you are looking at the strongest opposer of oil and gas development. During my younger days I was pretty radical and opposed all oil and gas development. But I have had opportunity to actually witness the caretakership and the great responsibility oil and gas industry has taken upon themselves to be responsible to sound oil and gas development in Alaska.

Mr. CALVERT. As part of your job for the North Slope government, I understand you visit most of the North Slope villages

monthly. That is a lot of territory to cover. Can you give the committee an idea of the level of support, as you mentioned in your testimony, but again, you mentioned it was almost unanimous, is that the case?

Mr. REXFORD. Yes, this is the case. The residents of the North Slope Borough support oil and gas exploration and development overwhelmingly. When you sit down to speak with our Inupiat people and non-Inupiat people, they are in support because they know that without ANWR the infrastructures in place to provide basic life, health and safety services are in jeopardy. The millions of dollars worth of infrastructures that are taken for granted, I feel, by our fellow citizens in the Lower 48 would be in jeopardy due to the harsh climate and the maintenance and operating costs. And so we do need ANWR as another tax revenue base to make sure and assure our citizens the proper care and maintenance of those infrastructures.

Mr. CALVERT. I understand. Mr. Shively, is it fair to say that the issue of development in ANWR, and you mentioned this, again, in your testimony, is pretty much a non-partisan issue in Alaska throughout the territory out there?

Mr. SHIVELY. Mr. Chairman, yes, as I mentioned three Democratic governors have supported it. The previous governor, who at one time was a Republican, supported it. Our—yesterday in front of the Senate the President of the State Senate, who is a Republican, was testifying with me and she supports it. So yes, it has been a bipartisan issue in the state.

Mr. CALVERT. Thank you very much. Mr. Miller.

Mr. MILLER. Thank you, Mr. Chairman. Mr. Leshy, John, for you. Your testimony raises a couple issues. First of all, let me go to the issue of the split with the 90/10, the Statehood Act. That is currently being litigated, you point out?

Mr. LESHY. Yes, the state of Alaska filed under the Hickel Administration, I think, a \$29 billion lawsuit against the Federal Government raising all sorts of claims. One of them concerns the power of Congress to change the revenue split.

Mr. MILLER. As I understand it, the—if they are successful it will make little difference what this bill would say or what they say they will accept or not accept. It will be governed by that and people in Alaska. The government would have the standing to seek enforcement if they get a ruling in their favor in that case, is that not correct?

Mr. LESHY. That is my understanding too. In other words, the legal issue being pursued there is does Congress simply have the power to alter the arrangement of the Statehood Act. And if Congress—if the court agrees with the state and says that Congress does not have the power, then even though Congress would enact a piece of legislation here that says it is a 50/50 split in ANWR, if Congress doesn't have the power to do that the courts say, then that arrangement, that 50/50 arrangement would be void and you would go back to the 90/10 arrangement.

Mr. MILLER. On the—you know, we were talking earlier about the comparisons with Prudhoe Bay and the 1002 report that was done earlier in anticipation of this issue and then again what we have learned since that as the Department and others and the

state have continued to monitor some of the concerns in this area. I don't know if you can do it this morning, but I would like to be able to ask you for the record if I can, for you to submit on, you know, sort of what are the new concerns that have been raised.

As I have looked at some of the information that was done independently, again, this question of the core calving area and what the caribou in fact really are doing both in and outside of the core calving area, where they are going now, I think we know more than when that was originally drawn in the 1002 report.

And also the question is being raised about the quantity of water and whether or not it is in fact available. I think there is popular belief that a lot of this would be done through ice roads and pads would be done in the winter and all that. And the question is are there water resources to support that or are we in a position as—again as I look at some of the information, it suggests almost that you would have to de-water some of the rivers to create the roads that would be necessary.

Now maybe some of that is answered by helicopters and the rest, but again, there is some assumptions what we learned in ANWR and how you can do this with little, you know, very little impact if you do it at certain times of the year using those water resources. And those were an issue in Prudhoe and apparently may be more of an issue here because there is not a clear match between available water resources and the infrastructure needs.

So if I could ask that you might submit what concerns have been raised along those lines, I would appreciate it.

Mr. Shively, let me ask you a question here on the calving area. The governor's approach is what on that issue, on the core calving area, the migration paths of the caribou? You mentioned this isn't oil versus caribou. And hopefully that issue can be resolved, but it seems to me there needs to be some stipulations.

Mr. SHIVELY. Well, of course we have stipulations relating to wildlife management as part of our permitting process. And I think that all of this would probably be largely a Department of Interior permitting process. We have often shared with them as we—for instance, on OCS sales—what we think is correct.

In terms of the core calving area, one of the problems is even our biologists, as stated in the most recent piece of information I have from them, say that you can't really precisely define what the core calving area is. This is some discussion about even if you define the core calving area how often and what percentage of the caribou use it. So it is not the kind of or sort of static area that one would hope for. And we have now, I think, 17 or 18 years worth of data on that. We are reviewing that. But I think the main thing is that if—let us take the worse case situation. If indeed as a result of eventual development there were a decline in calving, you could deal with that by closing down a substantial part if not all of the development during the three week period that was necessary.

So I think there are lots of opportunities to manage that and the governor is comfortable with that.

Mr. MILLER. The core calving area isn't as speculative as you suggest it is. I mean, those 18, 19 years we have done the overlays. We have done the patterns and you start to see a substantial area that is involved in the core calving area, not substantial in terms

of the slope, but where you are going to get a high density, high probability that this activity is going to take on. And again, that goes to the people's confidence about what you can and cannot do. And it may be under the rules of the Senate that none of this can be set forth in the legislation, so, you know, you are asking people to fly blind, and I think people have to know what they would anticipate if they were to vote for this bill we could do and not do.

Mr. SHIVELY. I think under existing law, both state and Federal, there is a tremendous amount you can do. I mean, I am not sure that Congress needs to set new additional requirements. Certainly this Secretary—

Mr. MILLER. Let us suggest that Prudhoe Bay was developed in a much different regulatory mood than the Congress is in today and maybe the American people. So there may be a lot you can do. Whether or not that would be done or not would suggest something other than that.

Mr. SHIVELY. I think all you need to do is look at some of the stipulations that we are putting on in terms of our OCS and on-land lease sales and you will see that we are still very serious about the kind of—

Mr. MILLER. Well, I am out of time and I don't want to get—but if I might, Mr. Chairman, I am going to—I would like to submit some questions to you as I have asked Mr. Leshy.

And I just might ask Mr. Rexford one question. Has the Borough changed its position on offshore leasing and exploration and development? Are you in favor or opposed to that or where are you now? Historically you have been opposed to that.

Mr. REXFORD. The North Slope Borough historically has opposed all offshore development where the migratory path of bowhead are jeopardized. However, we do support nearshore development.

Mr. MILLER. OK, thank you for your confidence in the industry in relationship to their distance from the shore.

Mr. REXFORD. The dynamics of the Arctic Ice Ocean are a question that need to be proven by the oil and gas industry.

Mr. MILLER. OK.

Mr. REXFORD. That is a lot of pressure to study and measure.

Mr. MILLER. Thank you.

Mr. CALVERT. Thank you, Mr. Miller. Mr. Cooley.

Mr. COOLEY. Thank you, Mr. Chairman. Mr. Leshy, our information shows here in what we have been provided that the USGS geologists in 1987 estimated there could be from 3.2 to 9.2 billion barrels of recoverable oil in the Coastal Plain with an estimate that chance of about 46 percent finding if we did some drilling. No additional tests have been done on the 1002, yet the USGS now is working on a report which substantially downgrades the estimated reserves. How do you downgrade the estimated reserves when you haven't done anything since the time when you did do some reserve checking?

Mr. LESHY. I think, Mr. Chairman—Congressman Cooley, I think what happened here is the USGS went back and looked at the underlying strata under the Coastal Plain. And if you can look at the map here over on the right, that actually doesn't show the Brooks Range, the mountain range that comes through here, but the Brooks Range actually sort of pinches off toward the Arctic Ocean

and the Coastal Plain gets narrower as you go further east into the 1002 area. And I believe, and I am speaking as a lay person and I would be happy to supply you with more detailed information from the USGS, they simply determined the oil traps, et cetera, because of the underlying geology, would produce less oil than they had previously thought. But I am happy to supply more information on that.

And I might state for the record, Mr. Chairman, in response to Congressman Miller's question, we would be happy to supply the updated information he wants. What we have done with both the USGS and BLM and the Fish and Wildlife Service have all been looking at the impact assessments that were done in the Department in 1987 and the other studies and information gathering and have been updating that. We should have at least the bulk of it available in a couple of weeks and we will make that available to members of the committee.

Mr. COOLEY. Well, you haven't done any testing. This is just an "estimate" by what you think may or may not be there, so I guess the position of the Department is you would rather seal the area off than drill a well and find out if there is anything there?

Mr. LESHY. There was no, as I understand it, there was no testing, further testing wells for example, in the 1002 area. But there has, of course, been a lot of activity up on the North Slope in general since 1987. There are new wells onshore, outside of the 1002 area. There are new wells offshore and they have taken the new information from those wells, put them back with the data they already had and reanalyzed it.

And by the way, let me emphasize the USGS does this all the—I mean periodically. This is not something that they have never done before. They periodically keep current their resource and reserve estimates for oil and gas throughout the United States. And this was part of their periodic updating.

Mr. COOLEY. Except that it apparently hasn't been done in this area since '87, is that correct?

Mr. LESHY. Right, but I will have to check, but I don't think that is really different from their past practice.

Mr. COOLEY. So a periodical, eight, ten years down the road? One other thing as we have had a lot of discussions, the two of us here—

Mr. LESHY. Right.

Mr. COOLEY [continuing]. over the recent days. And I am very curious for my own information and for the record. Before you came to the Department of Interior, where were you, sir?

Mr. LESHY. I was—immediately before I came into the Department of the Interior—I was working on the staff of this committee for the chairman. Prior to that I was on leave at that point from a teaching position at Arizona State University out in Tempe, right outside of Phoenix. I had been there for 12 years, the previous 12 years. And before that I worked in the Department of the Interior for a period of years.

Mr. COOLEY. So you were at Department of Interior, teaching, then on staff and here?

Mr. LESHY. Right. I can go back further if you would like.

Mr. COOLEY. No, no, that is good. I was just curious. I am trying to understand your philosophy as we go through this process. We have had a lot of interchange here in the last several weeks, needless to say.

I understand from what we have been able to read in the information sent to us that there has been virtually no adverse impact on Coastal Plains environmentally to wildlife or exploration activities if they are done in the winter months. Is that what your Department has determined as well?

Mr. LESHY. Mr. Chairman, Congressman Cooley, let me address that. I am happy to have the opportunity because there has been a lot of talk here this morning so far about the impacts of past development and what that might tell us about the proposed development in the 1002 area. First of all, the Prudhoe Bay area, of course, to the west of this area has been developed substantially over the last 20 years, and there has been a good deal of data gathered from that area. The fundamental question is can the impacts as determined in that area be translated into similar impacts if the 1002 area were developed.

For one thing, there has been talk here about the caribou herd. It is a different caribou herd around Prudhoe Bay. It is much smaller herd and it has a much wider area to roam in. And therefore, the biologists from the Fish and Wildlife Service who have looked at this issue think it is not readily translatable. What has happened to the Central Arctic Herd may not tell us much about what happens to the Porcupine Herd, which is a much larger herd. The Coastal Plain, as I said before, pinches in and that area is much smaller. We do know a good deal about the calving areas. We do know that and fully illustrate it in the 1987 studies that were done during the Reagan Administration. We are in the process of, as I mentioned, updating those studies. And they show that the impacts are certainly potentially very significant on the caribou herd.

Let me also mention there has been discussion here of the exploration issue and whether or not exploration would have minimal impact, particularly under modern conditions of doing it through ice roads and the like. Again, I would make two points here. Number one, ice roads, et cetera, depends upon freshwater in the vicinity, and it is not clear there is enough freshwater in the 1002 area to sustain that kind of exploration. And number two and more important, the proposal is to lease for exploration and development so that even if exploration is determined to have relatively minimal impacts, the development that would follow from discoveries would have much different impacts.

Mr. CALVERT. Thank you.

Mr. COOLEY. Well, let me finish this up, Mr. Chairman. Just one—

Mr. CALVERT. In the interest of time, we are running behind here a little bit.

Mr. COOLEY. One second. May 15 to June 1, according to the publication, is the calving period. So you see no—is there any credence in what we have been talking about that if we were to explore this area during the winter months, being November through maybe February, that we would not impact the calving process? Is that not true? Are your biologists on the same fact?

Mr. LESHY. Again, it depends upon whether you could do exploration only by ice roads where there is enough water in the vicinity or whether you have to do it at other times of the year. And number two, if development follows exploration, then you would certainly get into the calving period and have the disruption that the biologists fear.

Mr. COOLEY. Thank you, Mr. Chairman. I appreciate it.

Mr. CALVERT. Thank you. Mr. Vento.

Mr. VENTO. Well, Mr. Leshy, Secretary, they have discussed only a small amount of the area; a footprint would be very small. How would you describe that 12,500 acre footprint?

Mr. LESHY. Well, I suppose the comments, understanding a footprint is a confined area. These development fields basically are spider webs of pipelines, ancillary facilities, roads and that sort of thing. So while the on the ground—while the impact of those facilities may only be felt directly on 12,000 acres, the actual area of development could encompass a much larger area.

Mr. VENTO. And that doesn't occupy very much of the ocean either, but it affects the fish a lot. Please describe the temporary moratorium that is currently in place. Do you share—you noticed the spirited reaction between myself and the Senior Senator.

Mr. LESHY. That is right. I was here, as you were, in 1980, '79 and '80 when this issue was being debated. And as I recall, and you would remember better than I, the House voted to put—twice voted to put the 1002 area in wilderness, formally designated wilderness. The Senate would not go along with it. The compromise was that there would be no development unless Congress at some point in the future opened it up. So the status quo legally is that there is no exploration or development prohibited—I am sorry, there is no exploration or development allowed in the 1002 area. And it will remain that way forever unless Congress gives us a different direction.

Mr. VENTO. There is a prohibition in the law.

Mr. LESHY. Exactly. I can read it if you would like.

Mr. VENTO. No, it is not necessary. I would just direct my colleagues to it.

You know, one of the things that, Mr. Shively, you commented on is that if there was a problem with regards to caribou, that you obviously wouldn't be in favor of this. The new Alaska Department of Fish and Game Information Impacts To Caribou said that they are significant. It is already well documented that the development of Prudhoe Bay displaced caribou and disrupted their movements. This is from your Fish and Game Department.

Calving within the Prudhoe field had already largely ceased by the time oil first began flowing south. Alaska Department of Fish and Game biologists reported in a 1994 study that the Central Arctic Herd in the Kuparuk oil fields had a declining growth rate due to low calf production. Oil field development caused displacement of female caribou and their calves during the calving period and during insect relief.

In a study currently in press, scientists concluded that the long-term displacement is occurring elsewhere, even in the new Kuparuk and Milne Point oil fields. As the Kuparuk and Milne

Point fields became more heavily developed, caribou used them less and less.

The International Porcupine Caribou Board, of course, published sensitive habitat reports in 1993 which concluded there is no alternative to the sensitive habitats in the Coastal Plain used for calving and post calving by the herd. These are the International Porcupine Caribou Board, the Alaska Game and Fish Department, you know.

I know it is erratic. I mean, the Porcupine Caribou don't always even go to the North Slope, this area we are talking about right now. But notwithstanding that, you suggested in your comments if there was any conflict. I would say that there are some pretty serious questions here.

Mr. SHIVELY. Well, what I said was, I think, is if there is a choice between caribou and oil, we would choose caribou. We do not believe that choice. And the report I think you were just reading from concludes caribou and oil development need not be mutually exclusive, but we are unlikely to adequately protect the Coastal Plain habitat of the Porcupine Herd unless we fully recognize and acknowledge its importance to the caribou.

We agree with that. That is why we have been spending a lot of money of the Federal Government looking at these issues. I mean, we want to minimize the impact. And I have never—I didn't mean to maintain that there would be no impact, but our experience is that the caribou adjust to development, that herds continue to grow. You can debate why caribou herds go up and down. They go up and down now, the Western Arctic Caribou Herd is right now, which is the largest caribou herd, is having some problems with declining. Some people think because it is too large for its range. It is a thing that—

Mr. VENTO. What some people think and what subjective information I might have is probably very interesting, but the thing is I am quoting from the study talking about the effects due to the oil development that is occurring there. This is from your own Game and Fish Department.

Mr. SHIVELY. As am I. And if they felt that they should shut down or change some of the operations, they would recommend that. They have not recommended that.

Mr. VENTO. Well, how many full-time personnel do they have at the Prudhoe Bay site?

Mr. SHIVELY. Full time at the Prudhoe Bay site? I don't think they have any.

Mr. VENTO. They don't have any. Well, what is the compliment in terms of the careful monitoring that goes on there from Fish and Wildlife?

Mr. SHIVELY. I don't—I can get you those figures. I don't know, but the Fish and Game Department has a number of biologists that do a wide variety of—

Mr. VENTO. How about the Department of Environmental—the DEC?

Mr. SHIVELY. The DEC, I think, has one person that goes up and back to the North Slope and two or three people that work all along the pipeline on oil issues.

Mr. VENTO. Well, it isn't much. I mean, considering the nature and the importance of this, it doesn't seem like a very significant contribution of people.

Mr. SHIVELY. Well, that is—

Mr. VENTO. My time is limited. Mr. Rexford, what is the impact in terms of access to the general public to Prudhoe Bay today, do you know?

Mr. REXFORD. Would you rephrase that?

Mr. VENTO. What is the access of individuals to the Prudhoe Bay area today?

Mr. REXFORD. The—are you referring to access to—

Mr. VENTO. Yeah, people being able to go onto the lands where these oil fields are.

Mr. REXFORD. The Prudhoe Bay area is an industrial area, and so due to the possible risks of danger by subsistence hunting or high power rifle usage, it is—there is limitations in that respect. Is that what you are seeking?

Mr. VENTO. There are limitations. Well, I was seeking an answer. I think for the general public there is no access. For subsistence you are telling us there are limitations. And of course that would be true of this area as well, is that correct?

Mr. REXFORD. Let me answer the first part of your question first, Congressman Vento. The Delta Highway was recently opened up to the general public all the way up to Prudhoe Bay. And so that is an access road. However within the industrial complex and the infrastructure of the oil and gas industry, there are limitations. Bus tours are provided.

Now what was the second portion of your question?

Mr. VENTO. Well, now I think that you are doing fine in your bus tours if you want to go. I know they will fly us around if we go up, the oil companies will, but the general public and others are very limited in terms of these areas. Even though they don't occupy any space, just try walking on it. Thank you, Mr. Chairman.

Mr. CALVERT. Thank you, Mr. Vento. Ms. Chenoweth.

Ms. CHENOWETH. Thank you, Mr. Chairman. Mr. Leshy, it is, as you know from having been a staffer for Congressman Miller, how important it is that the information we receive from you is entirely accurate. Now Chairman Calvert asked you a very interesting question, which was is oil development presently taking place on any of our National Wildlife Refuges. You indicated there may be one. Would you check with your legal counsel again, because the committee did not get an accurate answer on that.

Mr. LESHY. I think I can elaborate, actually, without checking with my legal counsel. The development I referred to was in Alaska, the Kenai, which actually, I think, was first developed in the early or mid 1950's before, incidentally, Congress changed the law to say that wildlife—that mineral development in wildlife refuges could only take place when it was determined to be compatible with the wildlife purpose of the refuge. I think there may be some limited oil and gas development in the Lower 48, either old pre-that change in the law or occasional I know the Fish and Wildlife Service leases oil and gas in refuges where there is drainage from outside, in other words that the only way you can protect the Fed-

eral treasury from having people suck the oil out from under the refuges to drill and produce offsetting wells in—

Ms. CHENOWETH. That is in Louisiana and a couple in the mid-west.

Mr. LESHY. Yes, I think those are drainage situations.

Ms. CHENOWETH. You stated, and your map shows, that all the area west of Prudhoe Bay is open for leasing. Just—and you talked about the data that was retrieved under the Reagan Administration, but just how much is presently leased and how many acres is development taking place on now?

Mr. LESHY. I would have to furnish you figures after the hearing. I am sorry. I don't have that at my fingertips. The area, if you look at the map here, the area immediately to the west of the 1002 area where Prudhoe Bay is is largely state land and leased and developed under state authority. There is also some native land there. Then the big chunk, the National Petroleum Reserve, is administered by the Bureau of Land Management. And as was previously mentioned here, there have been several lease sales in the Pet Four, so called Pet Four area.

Ms. CHENOWETH. I think your counsel knows that answer. If we could just bend our time, could you please for the record check with him and let us know for the record.

Mr. LESHY. Yes. So I can understand, you want the acres leased in the area west of the Arctic Range?

Ms. CHENOWETH. That there—in fact there is—

Mr. LESHY. On state and Federal land, all land? I mean, I am not sure we will have actually the state figures.

Ms. CHENOWETH. On Federal land. In fact, there is very little leasing going on and very, very little development if any, right?

Mr. LESHY. Well, as was mentioned here earlier, in the past the oil industry has not been all that interested in going into Pet Four. We have had some interesting discussions quite recently, actually, with a couple of companies who are interested in moving into that area because of some newly emerging geologic data. So the picture there may be beginning to change somewhat.

Ms. CHENOWETH. I think that is more accurate. Mr. Leshy, you stated on page 2 of your testimony that so far the proponents of drilling have not offered to consider the Arctic National Wildlife Refuge System in the context of an overall national energy policy encompassing a review of alternative energy resources and the prospect for conservation. Can you state for me what the National Energy Policy is?

Mr. LESHY. Well, I am a little bit out of my expertise here since the National Energy Policy is—the current Administration is essentially done over at the Department of Energy. I know they have sent up a number of proposals for various things like the continuing programs to promote energy efficiency and that sort of thing. And I think, as I recall, a year or so ago put out a national energy strategy, but I am happy to get a hold of that and send that to you.

Ms. CHENOWETH. Let me just ask you, you were here in 1978, weren't you?

Mr. LESHY. Yes.

Ms. CHENOWETH. OK, and that was in the Carter Administration and a law called the Public Utility Regulatory Policy Act was

passed then. And in the debate and so forth that created—and the action that created this law, it was pretty well stated that it is in the national interest to become energy independent, didn't it?

And in fact, in two United States Supreme Court cases that were—came out of this particular law *Mississippi v. The Federal Energy Regulatory Commission*, decided in 1980 by the Supreme Court, *American Electric Producers v. The Federal Energy Regulatory Commission*, I think it was 1981, United States Supreme Court stated it is in the national public interest, which is rare for the Supreme Court to do. It is in the national public interest that this nation be energy independent.

And, you know, when that law in 1978 was passed we were 40 percent dependent on foreign oil. And today we are 50 percent dependent on foreign oil. And I think the Supreme Court and this body has already stated what the energy policy is.

And I don't know about the Porcupine Caribou that once in awhile may make it up to the North Slope or not, but I know what this body and the Supreme Court has said about a national energy policy.

And so, you know, when we hear the Secretary of State, James Baker, say we are going to war, a lot of mothers had to send their sons to Desert Storm and the Administration said we were going to war to fight for oil. You know, it pretty well brings it into perspective how important ANWR is to the national public interest and to the lives of young men and women. I think it is pretty important.

Thank you, Mr. Chairman.

Mr. CALVERT. Thank you, Ms. Chenoweth. Mr. Abercrombie.

Mr. ABERCROMBIE. Thank you. Let me follow up on that last point first, if I might. Mr. Shively, if this oil is brought out, will it be exported to foreign countries?

Mr. SHIVELY. I don't know the answer to that question. It really depends on the timing of the oil and the marketing on the west coast.

Mr. ABERCROMBIE. Well, if the bill passes that we have now that would allow for the export of Alaskan oil away from United States, is it likely that this oil would be included in the oil that would be eligible for export out of the United States?

Mr. SHIVELY. This oil would clearly be eligible for export outside the United States, but in the case of emergency the President has the power to stop any export and keep the oil in—

Mr. ABERCROMBIE. I understand, but if the argument is that we are facing emergency anyway, which by the way I think we do, we are now importing more oil than we ever have before, but—and I would like to see our own needs met first, but I understand the revenue questions and all the rest. I just don't want to leave on the record that this is a question of oil being gained that would not otherwise be gained and that it accrues necessarily to the total that would be retained within the boundaries of the United States.

Mr. Leshy, I want to make sure that I understood what you said originally. Now I am looking at the Arctic National Wildlife Refuge, Its People, Wildlife Resources, Oil and Gas Potential, a brochure which you may perhaps have or could be furnished to you by someone there. Maybe the committee has a copy that I could give to you.

The reason I am asking is if you look on page 16 and 17 I am trying to figure out what you meant by your statement, if I heard it correctly, that there is interest in drilling for oil west of the current drilling, and that that would—that there would be—that is already eligible. That area, I presume, is below the Barrow Arch and somewhere between the Thrust Belt and the Colville Trough. In other words, between the Brooks Range and the Beaufort Sea. Is that correct? Did I understand you correctly that if we went west from ANWR, and I presume west of Prudhoe or Kuparuk or Milne that that is what you are talking about, or am I misunderstanding your point.

Mr. LESHY. No, Mr. Chairman, Congressman Abercrombie, that is basically right. I have not been personally involved in those discussions, but I know there have been discussions between the Department and some oil companies concerning proposed exploration and development. This is in the Naval Petroleum Reserve and my understanding is the area is somewhere between Fish Creek and Simpson on that map. In other words, it is west of the state lands around Prudhoe and the development there.

Mr. ABERCROMBIE. Between, I am sorry, what and Simpson?

Mr. LESHY. Well, west of Harrison Bay between Fish Creek and Simpson.

Mr. ABERCROMBIE. OK.

Mr. LESHY. Onshore in that area.

Mr. ABERCROMBIE. Do you have any more information or could you provide it to the committee with respect to the likelihood or the prospects, or perhaps, Mr. Shively, you might know something about that?

Mr. SHIVELY. Well, Mr. Chairman, there has been some interest because of a recent discovery of what is marked as Colville on your map, but going further west. However, the geology would show not the kind of Prudhoe Bay size fields that the potential geology shows in the 1002 area, but probably more likely 100 million to maybe 300 or 400 million size fields, much smaller fields.

Mr. ABERCROMBIE. What are we talking about in terms of years of production, current technology? Well, that is OK if you—

Mr. SHIVELY. Probably ten to 15 years for a small—

Mr. ABERCROMBIE. I see. Are you familiar, Mr. Leshy, and I want to know what your—the Department position if you are familiar with a discussion that I have had previously in this committee about the idea that where Kaktovik is concerned, the area around Kaktovik, that that clearly is native Alaskan land and that from my point of view, speaking as a representative from Hawaii, my interest in this, and you should know this for the record, because I don't believe we talked before, is that I believe native peoples have the right to make decisions about land. There has been quite enough decisionmaking made for them. The difficulty here is there is a dispute that—as to what should be done among native peoples, but nonetheless where Kaktovik is concerned I concluded that if the people in Kaktovik wanted to drill or slant drill. I call it slant drilling, but there is another name for it which escapes me at the moment.

Mr. LESHY. Directional.

Mr. ABERCROMBIE. Pardon me?

Mr. LESHY. Directional drilling.

Mr. ABERCROMBIE. Yeah. And that that has improved considerably, the technology has improved considerably. And that might go under the ANWR Coastal Plain to some degree. Do you oppose that as well, because I am going to have difficulty in dealing with your opposition in the ANWR if you are also opposed to native—I want to be frank with you why I am asking the question. I have difficulty in countenancing your opposition in the Coastal Plain if you are also opposing the people in Kaktovik being able to exercise what drilling they might find suitable if they do.

Mr. LESHY. Yes, Mr. Chairman, Congressman Abercrombie, I am happy to address that. A little history is necessary here. The lands controlled by the Kaktovik came about, that is their ownership interest in those lands came about as a result of an exchange that was done, you are probably familiar, in the Reagan Administration, I think. In the mid-1980's they were given rights to select and did select rights, did select lands in the Coastal Plain. It was very clear at the time, understood by everybody and certainly by the Kaktovik people that they had no right to develop that land, that in other words their rights for oil and gas purposes. Their rights, their selection rights were exercised with the clear understanding that if Congress decided to open up the area, then they could develop it—

Mr. ABERCROMBIE. The question—

Mr. LESHY [continuing]. like anybody else in the 1002 area.

Mr. ABERCROMBIE. I understand that. Mr. Chairman, I realize I am at the end here, so I want it clear on the record. I understand that, but that is like—native people have been through this before. If you would never get a shot at getting the land in the first place unless you knuckle under to that. So what I am saying is do you oppose the Congress enabling the people of Kaktovik to engage in drilling if they desire to do it?

Mr. LESHY. We oppose—

Mr. ABERCROMBIE. If this proposition was put forward in the Congress.

Mr. LESHY. We oppose Congress changing the law which currently prohibits any drilling in the 1002 area.

Mr. ABERCROMBIE. Well, I want to go on the record and say I can't agree with that but that is another issue, I think, that will come up in this.

Mr. Chairman, I appreciate your indulgence. Thank you, Mr. Leshy. If you have anything further on that, I would appreciate you making it available to the Chair.

Mr. LESHY. OK, I would just—if I could have 30 seconds. The Secretary spent a lot of time in Alaska. He spent a lot of time with native people in Alaska and working on native Alaskan issues. This is a difficult question because, as you and others have pointed out, the native peoples of Alaska are divided on this issue, the general issue of the 1002 area development.

Mr. CALVERT. Thank you. Mr. Farr.

Mr. FARR. Thank you very much, Mr. Chairman. I can't help but sit here and think about the policy implications that Congress is asked to make here in 1995. When you think about this issue is that if this were private land and private minerals we wouldn't be

here talking about it. It would be developed. We are talking about what is owned by the public, what is owned by all the people of the United States. It is publicly owned land which has been designated as Arctic National Wildlife Refuge. There is no other Arctic except in Alaska, just like there is no other Sequoia giganteums except in California, so the area is unique to Alaska but owned by all people in this country.

It is a National Wildlife Refuge, meaning that it has already been signified that the resources that is most important to the public are the refuge, are the wildlife. And now we are talking about needing to open that up to sell it to the private market and we do that by defending the fact that we need to be more reliant on domestic supply.

You know, it is ironic that debate goes on at the same time we are talking about already selling that supply to Japan. It is also ironic if we were so dependent on domestic resources why then is the largest developer of oil in Alaska a foreign owned corporation. So it is—what I would like to talk about is sort of the big picture. And I want to—the question really is to all of you in a big picture sense.

One is first to John Leshy. I can't help but think that if Secretary Babbitt were here the better question I would like to ask him is his wife Hatty is our representative, our ambassador to the Organization of American States. One of the big issues in Latin America is try to make Latin America, particularly Colombia, less dependent on having to produce drugs that are consumed in the United States by being more reliant on other types of natural resources.

British Petroleum just went into partnership with the Colombian government for one of the biggest oil finds in Latin America.

Wouldn't it be better in our national security policy to develop the Cusiana oil field and to develop, bring that oil into the United States rather than to rush to judgment on the Arctic wildlife?

I would hope that you might share that question with Secretary Babbitt to see if we could look at the big picture of oil economics and see whether there is better benefits to the United States to import Colombian oil before exporting Alaskan oil. I don't know if you want to comment on that.

I would like to also ask John Shively if indeed the resource is in Alaska and it belongs to all the public, what galls me as a lower state, I think every member of this committee other than the chair, is that we also have national lands in our states. And if you develop those lands for oil and gas, the states only get 50 percent. Alaska is claiming 90. If you cut our trees, we only get 25 percent out of it from the local state. Why is this balance that Alaska gets so much more than the other states, and frankly, doesn't have the adverse impacts of all the people that we have down here. I mean, we are the consumers of our local resources and that is why I am very interested if indeed this goes through.

You know, I frankly hope that this is a debate that our great, great grandchildren can have because I don't think that we need to rush to judgment right now. I don't see the national security issue and I frankly don't see the economics of it helping us at all here in the Lower 48 or 49, because I think Hawaii needs it also.

But we—why should we support a formula that isn't going to guarantee that any of the revenues come to our local governments and our cities and counties in the United States.

And lastly, Mr. Rexford, I would like to ask one of the things that everybody has talked about is the great job growth that is going to be there, this great employment as you develop ANWR and yet you sit here and tell us that if indeed it develops you want Impact Aid. Impact Aid, that is Federal, you know, welfare program for an area that is supposed to be hot for job opportunity. I don't see the rationale in requesting Impact Aid for something that is going to be so job producing.

So any of you want to respond?

Mr. SHIVELY. Yeah, let me take the 90—Mr. Chairman, Representative Farr, let me take the 90/10 issue. We would not expect Congress to open ANWR and take only ten percent. The lawsuit we have is over an issue that we have where Congress has already taken revenues from us under a current formula. We testified yesterday in the Senate that we would support 50 percent. And we believe there is a way to do it. We just believe it cannot be done unilaterally. It would take the consent of the state.

Mr. FARR. If indeed 50 percent, I want to insure that that money gets right to local governments in the United States for use on environmental mitigation on other, you know, impacts, because we don't have—that money comes here to the Water and Land Conservation Funds and Congress doesn't appropriate it, so it doesn't help anybody. It is just sitting here, you know, to look good on our ledgers.

Mr. SHIVELY. Well, Governor Knowles has supported a similar concept, but how Congress appropriates the money, of course, is not something the state of Alaska can control.

Mr. LESHY. Mr. Chairman, Congressman Farr, I am happy to respond briefly. I am happy to share your concerns with the Secretary and Mrs. Babbitt. I strongly suspect he is going to agree with just about everything that you said. Opening up the Arctic Refuge has very little, next to nothing frankly, to do with energy security. And he strongly believes that.

Mr. REXFORD. Representative Farr, I thank you for the question that you have asked me about Impact Aid. I would like to share with you the types of benefits that we have received in Wainwright, Atkasuk, Nuiqsut and Barrow. The Children's Receiving Home was constructed for \$3.7 million from the NPRA impact funds. The Congress in its infinite wisdom was able to foresee that there would be impact and so these funds were appropriated and allocated.

The impact to the community of Kaktovik could be tremendous. During the 1970's the construction of the Trans-Alaska Pipeline System, there was impact to every community across the state of Alaska, some social impacts, some impacts dealing with illicit drug use and abuse, those are the type of things that we would like to be able to avoid and prepare for in the future.

To me Impact Aid provides an opportunity to prevent and provide services for social ills that may possibly emerge in the future. And in terms of job growth, there will be employment opportunities. Again, the opportunities for the Inupiat people are tremendous

provided that oil is found. And I want to note that, again, over and over again it has been emphasized that when—if oil is not found, there will be no adverse or virtually no impact.

But we do not want to become welfare recipients to the United States of America when we can become self-reliant, be independent of welfare, have the opportunity to hold up our head high and say yes, we can stand on our own two feet as indigenous people and as a home-rule government to provide the basic life, health and safety services in the name of taxing oil and gas properties.

I do not know where else in this world that you can go and have—go to a land of opportunity and to provide for your people. In this great country of ours, ANWR is an opportunity for the Inupiat people, the residents and constituency of the North Slope Borough. And we are committed to sound environmental development. We have land management regulations and policies to protect the life ways of the Inupiat people and we respect the rights or the Gwich'in and other indigenous people who are dependent on the living resources of the air, land and sea.

We too depend on those resources, but we do it in a way that we respect and conserve those resources without impacting them. And I thank you for your question.

Mr. CALVERT. Thank you, Mr. Rexford. I thank this panel. I appreciate your testimony. Our next panel will consist of Mr. Mike Joyce of ARCO Alaska; Ms. Judi Brady, Executive Director of Alaska Oil and Gas Association; Mr. Roger Herrera, a consultant with Arctic Power; Mr. Dave Cline with the National Audubon Society in Alaska. I understand that some of the folks on the next panel need to catch some airplanes and so we will try to get you out of here as soon as possible and stay on our time line.

Mr. Joyce, if you are prepared, please proceed.

STATEMENT OF MICHAEL R. JOYCE, CONSULTANT, ARCO ALASKA, INC.

Mr. JOYCE. Thank you, Mr. Chairman, members of the committee. My name is Mike Joyce. I am the Senior Biologist with ARCO Alaska. The perspectives I want to share with you here today are based on my 21 years of direct experience in planning, building, managing how oil field operations interact with Arctic wildlife.

We have learned much since Congress last debated the question of ANWR, Section 1002 and the Arctic Oil Reserve. Yet still today I am puzzled why so little credibility is given to the existing biological record of the North Slope oil fields. Those opposed to oil development in the Arctic Oil Reserve most frequently state that their opposition is based on their assumptions of the serious damage that will occur to local wildlife and their habitats. Yet they have no credible evidence to support those concerns. Why do these opponents continue to either ignore or discredit the evidence collected from over 20 years of continuous monitoring in the Prudhoe Bay region? Much of that monitoring is conducted by the state and Federal resource agencies themselves. Why is it that only their assumed negative impacts from existing operations, by the way which are all based on old technologies and no longer relevant, will transfer to new locations and new activities, but yet the positive conclusions from existing operations, like caribou will pass under an ele-

vated pipeline, somehow will not correlate to a new development in a new location? Why do they expect animals located 80 miles apart from one another to behave completely differently. The evidence is clear, by all defensible scientific accounts, the fish and wildlife resources in the Prudhoe Bay region are healthy, productive and perform normal behaviors in normal patterns. Animals living 80 miles to the east should be expected to behave the same way.

Let me update you on some of the recent biological record of the existing oil field. Let us look at the two animals that are most sensitive to development, one mammal, one bird. Most of you know the record of the population growth of the Central Arctic Caribou Herd. I want to focus on other aspects of caribou ecology.

Many hours of debate have centered around how often and how many caribou calve in any given year inside Section 1002. In fact, in the past few days the Alaska Department of Fish and Game has released a report stating that over 90 percent of the collared Porcupine cows calved in 1995 in the 1002 area. Even if that estimate is correct, 1995 does not represent the normal condition. The record will show that. And even if it did represent a normal condition, the question of whether caribou do or do not usually calve at some percentage in any specific location is not the question that should be debated.

The question is if during any given year caribou decide to go to any given location to calve or perform any other activity will an oil field prohibit them from doing what they want when they want and where they want to do it. For that question we have to turn to the available data on oil field and caribou interactions. Those data tell us that from the 20 years of observation on the Central Arctic Herd, oil fields do not impede caribou from doing what they want, including calving where they want. And since caribou are caribou, whether they are members of the Porcupine or Central Arctic Herds, that conclusion should apply to animals located 80 miles apart.

Indeed, in 1992 the U.S. Fish and Wildlife Service, the Alaska Department of Fish and Game and the North Slope Borough in cooperation with the Alaska Oil and Gas Association formed a joint caribou steering committee to look at this question of what the effects have been of mitigation measures on caribou movement and normal behavior inside the existing oil fields. The final report was issued last fall and its conclusions were approved by all participating groups. Concurrent signatures of the Regional Director of the U.S. Fish and Wildlife Service, the Commissioner of the Alaska Department of Fish and Game and the Director of the North Slope Wildlife Department are inside the report's covers.

That report's basic conclusion is that with the exception of cows with newborn two to three week old calves, the mitigation measures implemented by the industry have been fully effective in allowing free movement of caribou throughout the oil fields. After calves mature past this two to three week period in time, they as well move freely throughout the fields.

Let us look at another question, though, about caribou ecology—insect harassment. The Beaufort Sea Coastal Strip is very important to caribou during the July insect harassment season. The existing oil fields, as you know, are mostly located within this ten to

12 mile coastal strip. Thus another important question of the evidence is have the existing oil fields impeded relief from the annual harassment by flies and mosquitoes.

Again, the data are clear and the data say no. In fact, we had seen a very interesting positive adaptation in the way these caribou respond during this insect season. During hot, wind free periods when insects are most active, hundreds and collectively thousands of caribou, will move onto our gravel pads and stand there for hours to minimize their insect harassment. They used to go to the coast. Now many of them simply go to the nearest drill pad. The two exhibits that are displayed show this behavior.

The Porcupine Caribou Herd, as you know, also move to the coastal strip and depend on it for insect relief. I believe we should expect the same type of adaptation and beneficial response to gravel pads by Porcupine Caribou.

Let us look at the other sensitive animal I have mentioned, the Tundra Swan.

Mr. CALVERT. If you could finish your testimony. I am sorry, Mr. Joyce. There are some members on the panel that need to leave early and we need to have some time for questions.

Mr. JOYCE. Can do. Yes, sir. We use Tundra Swans as an indicator of waterfowl health inside the oil fields. We have been monitoring swans for nine years. That monitoring has shown us that those swan populations are healthy and stable. In 1995 we had 108 swan nests inside the Kuparuk Oil Field. Thus, the only conclusion logical people can draw is Arctic oil field development is fully compatible with the maintenance of healthy fish and wildlife resources and this issue should not be the reason for disallowing development in the Arctic Oil Reserve.

[Statement of Michael R. Joyce may be found at end of hearing.]

Mr. CALVERT. Thank you. Thank you, Mr. Joyce. Ms. Judi Brady, Executive Director of the Alaska Oil and Gas Association.

STATEMENT OF JUDITH BRADY, EXECUTIVE DIRECTOR, ALASKA OIL AND GAS ASSOCIATION

Ms BRADY. Mr. Chairman, for the record my name is Judith Brady and I am Executive Director of Alaska Oil and Gas Association. Thank you for the opportunity to present testimony on leasing the 1002 portion of the Coastal Plain of ANWR. For the record, AOGA is a trade association whose 18 member companies account for the majority of oil and gas exploration and production activities in Alaska.

And just for your information, the kind of things that we do in AOGA is just what Mike Joyce was just talking about. We spend a good deal of time doing cooperative studies, environmental studies with state and Federal agencies. We respond to technical questions. We comment on state and Federal regulations and studies and we recommend best interest practices.

AOGA strongly supports legislation allowing Congress to open the 1002 area to oil and gas competitive leasing exploration and development.

We would like to point out—I am going—I am just going to make two points because all the other points are in the record and people have made them before. The first important point is how many

Alaskans do support opening this portion of the Coastal Plain to oil and gas development.

The dynamic in Alaska is very special. We have a limited number of people there and we have all been there—a lot of us have been there a long time, worn a lot of different hats through the years. You couldn't get anybody in this room to say they wanted oil and gas development if they hadn't seen it done correctly. And you couldn't get 75 percent of Alaskans to say they supported oil and gas development if they had not seen it done correctly.

As the oil and gas industry, we see this as a very important vote of confidence in what we have done so far in Prudhoe Bay. You have heard testimony that we have been operating there for the last 20 years at least. And even in the '70's oil and gas development in Prudhoe Bay was model development. Things have changed a lot. We have improved a lot. We have improved by 20 years and all of those improvements will go forward to be developed if 1002 area can be developed.

I wanted to say we talked about—because this is a budget bill there has been some questions about would the industry be interested and would the money that has been talked about be there. The industry depends on two things, production and reserves. And reserves are—future reserves are very, very important. So there will be a lot of interest in the opening of the 1002 area, because the geology, even though there is difference in how much is there, the geology certainly indicates that there are vast amounts of potential there.

For the record, we had in Alaska sale in 1969 at Prudhoe Bay and the bonus bids were 900 million. Senator Stevens alluded to that. That would be \$3.6 billion in today's dollars and five years from now it would be \$4.2 billion in bonus bids. And we expect that the bonus bids for this area would be similar to that at Prudhoe Bay. Bonus bids received in the 1979 Federal state Beaufort sale was 567 million for the state and 491 million for the Federal Government. The total was over a billion dollars. The Mukluk Beaufort Sea sale in 1982 brought Federal bonus bids of \$2 billion and companies paid more than 877 million for leases in the Voflerd in 1985.

So if the question is will the money be there in bonus bids, again, past experience says it will just like past experience says we can develop without having to choose between the caribou and the oil, which Alaskans truly would not do. Thank you.

[Statement of Judith Brady may be found at end of hearing.]

Mr. CALVERT. Thank you, Ms. Brady. Mr. Roger Herrera, Consultant with the Arctic Power Company.

STATEMENT OF ROGER HERRERA, CONSULTANT, ARCTIC POWER

Mr. HERRERA. Mr. Chairman, I am representing Arctic Power today and I should explain that organization. It is a not for profit grassroots citizen's organization. It has about 12,000 members, mainly in Alaska, some in the lower 48 states. Its sole purpose in life is to educate and persuade Congress to open up the Coastal Plain to responsible oil and gas leasing. As you have heard, it is very bipartisan as it represents really a cross section of approximately 80 percent of Alaskans that do support this effort.

If I may, I want to divert a little from my prepared remarks and just address one or two things which have clearly been of interest today and have come up. Firstly, let us talk about OPEC. We have become very fat and happy in this country about energy, probably fat because we don't walk enough and happy because of the price of a gallon of gas, but really we shouldn't be.

In 1973 when the first oil embargo happened the market share that OPEC commanded has never yet been recaptured by OPEC. They still have less world market share today than they did at that time when they were able to use their monopoly to create the first energy upset. However, they will be reaching that same percentage market share in the next three, four, five years, something like that. Watch out America when that happens because then clearly they have the same ability as they used in '73 and '79 to put us in real energy jeopardy. And that jeopardy will be far greater next time round than it was on those occasions.

Then we were producing in this country 9.2 million barrels of oil a day. Now we are producing six and a half. Now we are 50 percent dependent on foreign oil. So to ignore those threats and sort of make easy decisions on the Coastal Plain of ANWR would be very irresponsible in my view.

Let me present one other world viewpoint which is interesting and never seems to be considered, the role of Asia in the energy equation in the world today. Right now America imports something like 25, 26 percent of the marketed oil in the world. Asia imports 34 percent, something like that today, more than we do. They are a greater force than we are in impacting and effecting the price of oil. But in ten years time Asia will be importing something like 75 percent of the traded oil in the world.

Now to ignore that and say that oh, well, we are really the drivers of the world price of oil, obviously would be to our peril. All of that is obviously pointing to making a responsible decision about the Coastal Plain.

Let me address one other point or one point which was brought up here today. And it is one of those red herrings that we periodically get from the Department of Interior and others. And this is this business about water in the Arctic. Well, perhaps to a lay person water in the Arctic, especially in ten months of the year when it is frozen, is somewhat difficult. I should ask you how do you think wells are drilled in Saudi Arabia or in the middle of the Sahara Desert? There is no water there either.

You can drill wells in identical fashion in the middle of the wintertime on the Coastal Plain. You don't have to have freshwater from the surface. You can use the sea water if you are close to the coast. You can drill a slim hole down 2000 feet beneath the permafrost and you can retrieve so much water you would be drowned in the stuff. All you have to do is desalinate it to make it freshwater to build pads and roads and so on. Water is not an issue. It is a total non-issue in practical terms.

If I may, I would like to comment on the footprint because we have heard today by several people the estimation that was made way back in 1987 that the footprint on the Coastal Plain will be a spider's web and all this other stuff, and it will occupy perhaps 12-1/2 thousand acres. Well, let us look what has happened since

1987 on the North Slope of Alaska. As Senator Stevens mentioned, you don't have roads necessarily any longer. Your pads are very small. Your pipelines are buried. Gone, therefore, is your spider's web.

More importantly, if the Coastal Plain contains the sort of estimates of oil that we are talking about, one can expect, depending on how that oil is distributed, obviously, that a maximum of 2000 acres of land is going to be covered up, not 12,000, not 1-1/2 million. It gets smaller and smaller with time. Another ten years and undoubtedly the facilities will be designed so the caribou will love them even more than they do now. So again, I think we have got to be realistic in understanding what has happened over the last decade or so in the Arctic.

One last thing and I will close. And there are lots of other things that are worth mentioning, for example, about the willingness to develop oil in other wildlife refuges, eight of them around the country. I mean, Department of Interior saying that was a drainage situation is nonsense. You don't have to drain oil from anywhere or at least produce oil from anywhere to prevent drainage. You can unitize and happily share the oil. That is done routinely. Oil is developed on other wildlife refuges because it can be done safely. If it can be done in eight, why can't it be done in the ninth one? In fact, we do have it in the ninth one and in any of the previous eight ones.

One last point and that is the position of the Administration opposed to this and yet that same Administration spends a lot of time, Vice President Gore in particular, trying to coerce American oil companies and businesses to allow oil or to help oil development in Russia. Now give me a break. There is no way Russian oil is going to be developed under any auspices with the care and attention to the environment that will happen in Alaska. There is no contest in that. Thank you, Mr. Chairman.

[Statement of Roger C. Herrera may be found at end of hearing.]

Mr. CALVERT. Thank you. Mr. Dave Cline with the National Audubon Society.

STATEMENT OF DAVID R. CLINE, VICE PRESIDENT, NATIONAL AUDUBON SOCIETY

Mr. CLINE. Mr. Chairman, members of the committee, my name is Dave Cline. I am Regional Vice President for the National Audubon Society and I reside in Anchorage where I have lived for some 24 years. Our organization's position on this contentious issue remains exactly the same as it was in 1960 when we supported establishment of the Arctic National Wildlife Refuge by President Eisenhower to preserve for the American people unique wildlife, wilderness and recreation values.

Since oil development on any scale is totally incompatible with protection of the most superlative wilderness in the National Wildlife Refuge System, we recommend strongly that it should be prohibited. We feel that what we are really dealing with here is a choice of value more than numbers of caribou or swans or any other wildlife species that we can speak about.

As a member of Alaska Governor Tony Knowles' Oil and Gas Policy Council I have had the good fortune to sit around the table with

the executives of major oil companies operating in Alaska. These include Exxon, British Petroleum and ARCO. And I find that most of the debate at the table is focused on all the oil reserves already known or those that could be discovered in and around the Prudhoe Bay complex and what could be done to shape Alaska's tax and royalty regime to make this oil more globally competitive.

And just what do these North Slope oil reserves consist of that it is of such concern to the companies now operating in the state? Information recently provided by British Petroleum to the state's Oil and Gas Conservation Commission reveals that Prudhoe Bay, the nation's major oil field, remains the mainstay of Alaska's oil patch. It is now expected to provide nearly 200,000 barrels of oil a day as far into the future as the year 2030. Other overlapping fields containing known oil reserves at different depths enhance the North Slope's long-term value.

In a presentation to the Oil and Gas Council by a company known as OXY USA, a Houston-based oil firm—this report was given to the council on June 19, 1995—and along with it a report entitled "Unlocking the Heavy Oil Potential on Alaska's North Slope," company executives stressed the importance of royalty relief in Alaska as an incentive to develop some 26 billion barrels of oil that stands in place in oil fields such as West Sak, Kuparuk and Milne Point. Those kinds of estimates are more than the most wildly optimistic estimates of light oil reserves at Prudhoe Bay and the Arctic National Wildlife Refuge combined.

Not to be overlooked in this discussion is the fact that the North Slope gas owners, principally ARCO, BP and Exxon, are sitting on some 37 trillion cubic feet of proven gas reserves. The Yukon Pacific Corporation is vigorously trying to build a pipeline to deliver this gas to Asian markets. Should that pipeline be approved and construction begin, we are talking about a cost of in the neighborhood of \$14 billion and as many as 10,000 construction jobs. The point is, there is an awful lot of oil that the companies already are sitting on along with gas. So, it is not like we Alaskans are going broke.

So why are we proposing to invite both U.S. and foreign owned oil companies into a flagship wildlife refuge in the wilderness area when they haven't even developed what they've got? This doesn't make sense to me.

Drilling proponents say it would lessen, however, our oil dependency. That is, our dependence on foreign oil reserves. But there is no evidence that we can drill our way to energy independence here in the United States. Our country will remain dependent on foreign oil whether or not we drill the Coastal Plain of the Arctic Refuge. Evidence indicates that Americans account for 26 percent of the world's annual oil consumption while proven U.S. reserves comprise merely 3.5 percent of the world supply.

It is just simply a fallacy more North Slope oil would have a significant effect on our control over the world oil market. And that can be seen in the history of the 1980's. During that decade production at Prudhoe Bay peaked, but we still imported more oil than ever before. An *Oil and Gas Journal* editorial of June 13, 1994, said that imported oil doesn't harm U.S. security.

So I ask you, Mr. Chairman and members of this committee, what is really going on here? It just doesn't add up. The worst case scenario that I can see coming out of this proposal is a sacrifice of a national treasure important to millions of Americans, that is the Arctic National Wildlife Refuge, simply to sell off some of our last energy assets at rock bottom world prices of anywhere from 16 to 19 dollars a barrel to foreign consumers living in countries that are most fierce economic competitors. It seems to me the height of folly to suggest that this is in the long-term national security interest of the United States.

So with that I would close, Mr. Chairman, and request that a news release of 1987 from Audubon be entered in the record since some of our drilling proponents charge that two small gas wells in a non-wilderness area that is in the Rainey Sanctuary owned by the National Audubon Society in Louisiana somehow makes our no drilling position in the Arctic National Wildlife Refuge indefensible. I respectfully request that our clear explanation be entered in the hearing record.

Mr. CALVERT. Without objection.

[Statement of David R. Cline may be found at end of hearing.]

[National Audubon Society News Release may be found at end of hearing.]

Mr. CLINE. And show that our impact in Louisiana is like a footprint of a mouse compared to what we are seeing on the North Slope of Alaska, which is more analogous to the footprint of a dinosaur. Thank you very much.

Mr. CALVERT. Thank you for your testimony.

Ms. Brady, with respect to the figures in the budget resolution you heard today that is 1.3 billion, do you feel that they represent a fair assessment of the money that would be brought in from the leases?

Ms. BRADY. Mr. Chairman, if the lease sales of the past in areas that were considered highly prospective are any indication, they are probably low. And again, those figures were for the Mukluk sale \$2 billion. That was in 1982, so that wouldn't even be in today's dollars. And the 900 million in '69 would be \$3.6 billion today. So the figures in the—for the budget are probably low.

Mr. CALVERT. Could we be certain that numerous oil companies will compete in a lease sale in the 1002 area?

Ms. BRADY. Well, only the companies can answer that. The companies don't discuss their leasing plans with each other, but again, I think the point is historically that the two things companies must have is oil and production reserves. And to continue production and to have the reserves they will need for the future, they are going to be interested in any potential oil area. And right now what the United States is faced with is most of these potential oil areas are in other countries.

Mr. CALVERT. Thank you. Mr. Herrera, there has been a lot of talk today about national security and certainly no one disagrees that we are dependent on foreign oil. Right now the mid-east oil is somewhat plentiful. It is reasonably priced. Why do we need to address the issue as it regards to ANWR today?

Mr. HERRERA. I think, Mr. Chairman, because almost inevitably the amount of oil we produce from this country will continue to de-

cline in the future as it has over the last five or six years. So consequently, our reliance, even if we indulge in huge conservation more than we are now, our reliance on foreign crude oil is going to only increase. Now as I said in my testimony, I think that it is almost inevitable that the price of that oil will go up. We already have a huge balance to pay on this deficit caused by importing foreign oil, which impacts our economy negatively. We can look forward to that worsening very considerably.

Mr. CALVERT. Certainly there has been a lot of discussion, Mr. Herrera, about the Alaskans who benefit by opening ANWR and certainly we heard from the native Americans along the Coastal Plain who testify to the benefits they have accrued over the years, but are the Alaskans the only ones to gain from production of oil? There seems to be some discussion that whatever happens will be just a momentary bright spot and nothing lasting of the benefit will continue. What is your opinion on that?

Mr. HERRERA. No, I think the experience of the last 20 years would suggest rather the opposite. Actually, Alaska is a minor player as far as the benefits to its economy of jobs and such like good things. When one looks at how the money has been spent for existing development, and I think the Commissioner of Natural Resources mentioned a sum of 22.5 billion which has been tracked, if you will, over six billion of that was spent in the state of Texas. Well, that is—even for a state with the number of people that Texas has, that is a considerable boost to its economy. And that has been over a fair period of time. One can see similar effects all across the nation. So irrespective whether the money goes into the Federal treasury, the benefits of jobs that accrue are all across all 50 states, in fact.

Mr. CALVERT. Thank you. Mr. Vento.

Mr. VENTO. Well, on this job issue, there has been some analysis of that, Mr. Herrera, by others. They claim 3/4 of a million new jobs would be derived, I guess, depending upon if they discovered oil, I guess. But isn't most of that—are you familiar with the study on the jobs? You speak as though you are.

Mr. HERRERA. Yes, I am.

Mr. VENTO. Isn't it based on \$34 a barrel oil?

Mr. HERRERA. Yes, it is.

Mr. VENTO. The entire study is all predicated on the fact that oil will be \$34 a barrel.

Mr. HERRERA. Well, may I ask you, what is going to be the price of oil in about ten years' time? We don't know. We have to make an estimate of that. And all those people did was make an estimate, state what their estimate was and also make an estimate of how much oil will be beneath the Coastal Plain, which is another thing we don't know.

Mr. VENTO. Well, I know, but, I mean—

Mr. HERRERA. Actually, they might be wrong.

Mr. VENTO. Yeah, well they might be wrong.

Mr. HERRERA. But they might be right, too.

Mr. VENTO. But they are wrong based on 1995 dollars. Oil prices have not—the study produced in 1988 had quite a different extrapolation than the extrapolation that was used in this particular study. So it has greatly been changed. Furthermore, I think that

they get into not direct jobs but indirect jobs which is, you know, you may know as someone that has studied this, is very speculative in terms of what it points out. Of course this was done by the API, so I don't know, obviously they have a goal in mind there in exactly where we go for objective information.

You have been involved in some activity. You have been a geologist that worked on the Prudhoe Bay project, were you not?

Mr. HERRERA. Yes, I went to Alaska in 1960 and actually at that time Senator Ted Stevens was around. I assure you he was much more ornery then than he is now. He has matured and mellowed since that time, but I have been there a long time.

Mr. VENTO. Yeah, we will learn some day, I guess, yeah.

Mr. HERRERA. That is right. But with regard to your job estimates, don't believe them. I don't really mind. I mean, you can take an alternate study done by the Department of Energy which suggested that 250,000 jobs might be created. Take your pick, 250,000 to 735,000. It is still a lot of jobs.

Mr. VENTO. I think that either one of them are very speculative because they are in terms of the discovery or price of oil and the value of these leases, which was referred to here by Ms. Brady, both of them are based on only two sales that occurred at high end times by the BLM. And so when you look at the amount of money that is going to be raised, you can't just take rifle shots. You have to take a look at what the leasing has done and what is going on right now.

Mr. HERRERA. Well, let me——

Mr. VENTO. Ms. Brady.

Ms. BRADY. Well, let us talk about——

Mr. VENTO. DOE was also based on high prices at——

Ms. BRADY. Let us talk about the rifle shot. The first time in 1969 when we started, when Prudhoe Bay opened up for the lease sale there was no pipeline. Oil was under \$5. There were lawsuits. The Inupiat people were very much opposed. There were many Alaskans that were very much opposed. Every national conservation group in the United States was opposed and the companies still bid \$900 million. Today is much different. Today the oil industry working with the people of the area and the conservation groups have improved mightily. We have proved our case. There is a pipeline in place and so we are assuming that in this different world we will get at least as much money as we did from the Mukluk sale in '82, which was \$2 billion.

Mr. VENTO. Let me interrupt you. What has been the recent trend in Alaska right now in terms of bids. Hasn't the trend been down in terms of lease values?

Ms. BRADY. The trend in terms of lease values has been down all over the country.

Mr. VENTO. Except for the gulf, I guess. The gulf has been up based on the recent sales that we noted.

I might just say, Mr. Cline, I appreciated your insights. Both you and Mr. Joyce use this information from the Department, the Alaska Department of Fish and Game, at cross purposes. Everybody seems to be using it for their own purpose. It seems to me that it was pretty explicit, at least the portions I have read. I am obviously not in the position to read all the studies. You actually spent

some time doing some studies in this area as a Fish and Wildlife Service biologist in the 1970's, is that correct?

Mr. CLINE. That is correct, Mr. Chairman. My first assignment in moving to Alaska in 1971 was to undertake a study of the Arctic National Wildlife Refuge under direction of the Wilderness Act of 1964 to determine whether it qualified for inclusion in the National Wilderness Preservation System. So a small team of biologists and myself looked at it very carefully. That was one of the most rewarding and I would say easiest jobs of my career because it all qualified except for the mess at the DEW Line sites along the coast.

Mr. VENTO. My time is going to run out, but the point is in terms of establishing the wildlife refuge, there are a lot of purposes for which it was established, most of them would be compromised by the development path that is being proposed with regards to leasing, would it not?

Mr. CLINE. Oil and gas development on any scale in a wilderness such as this is, like, totally incompatible. The issue is wildlife in a wild setting, not wildlife in an industrial complex. There is a world of difference between the two. This is a superlative wilderness area which I think we need to set aside for this generation and those to follow. And if there is oil there, maybe our kids would like to decide whether it should be developed or not, because we are developing 95 percent of oil that is known in the state of Alaska—or planning to develop it. So we are talking about our children's future here and the values they choose.

Mr. VENTO. Sir, my time is expired. I just would want to comment that it is, you know, sort of like an Arctic desert in terms of the rainfall, in terms of its ability to heal itself, these particular lands, very, very fragile lands. Thank you, Mr. Chairman.

Mr. CALVERT. Thank you, Mr. Vento. Ms. Chenoweth.

Ms. CHENOWETH. Thank you, Mr. Chairman. As I understand it, and I realize that I arrived late, a little bit late for the testimony from Senator Stevens, but as I understand it, the ANWR area we are talking about represents about 1/5 of the total land mass in the Lower 48, is that a comparative—how big is ANWR compared to the Lower 48?

Mr. HERRERA. No, the whole state of Alaska is 1/5 of the continental United States. The state of Alaska is 375 million acres. ANWR is approximately 20 million acres.

Ms. CHENOWETH. And that would compare—

Mr. HERRERA. The Coastal Plain is 1.5.

Ms. CHENOWETH. OK, all right. And the footprint will be about the size of Dulles Airport, did I hear that?

Mr. HERRERA. Well, I testified it would be much, much smaller than that.

Ms. CHENOWETH. Much smaller?

Mr. HERRERA. Yes.

Ms. CHENOWETH. Mr. Herrera, I thank you for setting the record straight. I was shocked to hear you say that our dependence on foreign oil now is up to 60 percent.

Mr. HERRERA. No, I think it is just over 50 percent.

Ms. CHENOWETH. 50, OK, that is what I—

Mr. HERRERA. But it is increasing, unfortunately.

Ms. CHENOWETH. I appreciate all of your testimony. It is very, very informative. I was almost left questionless until Mr. Cline made a comment about the development in Louisiana and the footprint that is left there. I think that is sort of hard to equate, but I appreciate your opening that up and admitting to that situation. You know, Mr. Cline, Senator Stevens spoke about the Gwich'in leasing their lands. Well, I am curious, what was your organization's position on that decision at that time to lease the lands?

Mr. CLINE. I don't even recall that we were aware of it at that time, so we did not take a position.

Ms. CHENOWETH. You may want to look that up, you know. Your testimony says that you want ANWR to be protected for the Gwich'in Indians. Why haven't you considered the wishes of the Eskimo people who actually live on that Coastal Plain? The Gwich'in live south and I didn't hear any reference about your concerns about the Eskimo people who actually live there.

Mr. CLINE. That gets very personal with me, Congresswoman, because I have dealt with native and wildlife issues during my entire career in Alaska. My record will show that I have time and time again taken the position on the side of their subsistence arguments, including getting a specific purpose for the Arctic National Wildlife Refuge in ANILCA of 1980 which actually says one of the purposes of this refuge is to provide ongoing opportunities for native subsistence. That and many other examples are on the record of my position in support of their requests. It is also in recognition of the fact they own some 5 million acres on the North Slope. They have gathered some of the oil wealth through their taxation policies, and I fully expect them to continue taking advantage of oil development in their region. It wouldn't be realistic to think that they wouldn't. So I totally honor and respect their choice for now and the future of their children. And if there is going to be oil development in the region, I think they should fully benefit from it.

Ms. CHENOWETH. Mr. Cline, I guess I can't resist saying that I appreciated your comment about our children and grandchildren. I have six grandchildren and I just truly hope that my grandchildren too can make decisions as to whether we drill for oil or not instead of whether they will follow their country's command to go to another Desert Storm. I think we cannot lose that perspective.

Thank you, Mr. Chairman.

Mr. CALVERT. Thank you, Ms. Chenoweth. Mr. Abercrombie.

Mr. ABERCROMBIE. Thank you very much, Mr. Chairman. I hope you folks heard my question to the previous panel with respect to whether or not it might be possible to have drilling done in the Kaktovik area. The conditions under which that land was received would prevent that at the present time. Is that your conclusion as well, any of you? Mr. Herrera.

Mr. HERRERA. Well, one well is—

Mr. ABERCROMBIE. Mr. Herrera, didn't we meet in Hawaii?

Mr. HERRERA. No, we met on the North Slope of Alaska.

Mr. ABERCROMBIE. No, I know, but we met in Hawaii too, did we not, some years back?

Mr. HERRERA. Yes, I think so.

Mr. ABERCROMBIE. Yes, OK, I thought so.

Mr. HERRERA. We bump into each other in all sorts of strange places, don't we?

Mr. ABERCROMBIE. Right. I appreciate your hospitality and I hope we can show you the same in Hawaii again sometime soon.

Mr. HERRERA. Well, thank you. The—as you know, one well has been drilled on the Kaktovik village lands. And I believe they still have the ability to drill on that specific part of their acreage. But they do have some acreage which cannot be drilled upon until Congress makes a decision on the Coastal Plain as a whole.

Mr. ABERCROMBIE. Right. Now when that takes place, I want to make sure I understand. Isn't the original—wasn't the original concept that if oil was drilled any place that all of the native Alaskans would benefit, because obviously some villages, some areas are not in areas in which oil could be drilled. And the thought was, was it not, that if there was oil drilled and profits made, that some portion of the income would be shared throughout the state? Am I correct in that?

Mr. HERRERA. Mr. Abercrombie, you know one picks up this information as an Alaskan resident, but I am really not an expert at it. I——

Mr. ABERCROMBIE. Well, perhaps——

Mr. HERRERA [continuing]. hesitate to answer questions about it, but I am aware of what you say, yes.

Mr. ABERCROMBIE. Is that the understanding of the rest of the panel? Mr. Cline?

Mr. CLINE. My understanding is that under terms of the land exchange, which I have to say was very controversial because it didn't go through a thorough public process, is that the Arctic Slope Regional Corporation was given subsurface estate. And because of a quirk in the law under the Alaska Native Claims Settlement Act, because it is subsurface estate, any wealth derived from resources there do not have to be shared with other native corporations. It is just a rule that applies when they are sharing surface estate resources.

Mr. ABERCROMBIE. What would be the situation here if the now non-drillable lands were opened up?

Mr. CLINE. If they were—they would have to be permitted by Congress to drill for oil. If it was discovered, it would be theirs to do with as they chose. And any profits derived would not have to be shared with other native groups. That is my understanding of the law.

Mr. ABERCROMBIE. Is that—now I am talking about not just necessarily Kaktovik, but I am talking about any of the land now in dispute as to whether drilling should occur or not. Would your answer still be the same?

Mr. CLINE. All the other lands on the Coastal Plain belong to the Federal Government, so the royalty share between the state and the Federal Government would apply there, not between native corporations, not involving native corporations.

Mr. ABERCROMBIE. The native corporations wouldn't necessarily benefit, then?

Mr. HERRERA. Not directly, no. Indirectly, obviously, they would, as you heard from them today.

Mr. ABERCROMBIE. Well, if this was to move forward—see, this is—you—Mr. Herrera, and I know that you are particularly aware of my concern about native peoples, why hasn't this whole question been cast in a vein different from one group of native people versus another, say inland native people versus coastal native people? If the whole—if everybody was to benefit, now I am not saying they would still agree, but if it comes to a point where drilling is allowed on these lands, why can't the legislation be written in such a way that all the native peoples would be beneficiaries, not just the state or the Federal Government? Why shouldn't all of the native peoples be the beneficiaries?

Mr. HERRERA. Well, Mr. Abercrombie, as you know, this—

Mr. ABERCROMBIE. Particularly if you—let me follow up. Particularly if you have questions about the caribou herd and ancient culture and all the rest of it. I mean, that is what this whole argument is about. I hate like hell to see this argument come down in the end where it ends up at the Federal Government and the state arguing it out and the native peoples in the end are pawns in the argument.

Mr. HERRERA. May I—

Mr. ABERCROMBIE. And then benefit only indirectly.

Mr. HERRERA. Yes. May I answer your question from a sort of common sense viewpoint rather than a legal viewpoint, because I am not qualified to talk in legal terms. Common sense would suggest that what you are saying has lots of merit and that the differing sides should get together and talk out their problems and perhaps reach a negotiated settlement or whatever. This has not happened, though, with regard to the position, for example, of the Gwich'in opposed to development and the Inupiat. And the fact that it hasn't happened isn't because people haven't tried to make it happen. There has been an unwillingness on one side not to get with the other.

Mr. ABERCROMBIE. I understand. Mr. Chairman, I will conclude simply by saying again for the record that should this come to a conclusion, that is to say those of us with either the authority, the responsibility, I am not even going to comment on whether we have the justification or the brains to do it, if we end up making some decision, I for one—in which the drilling does take place, I for one would hope that we would fashion the legislation in such a way as to see to it that the native corporations are the beneficiaries or are at least a major shareholder in the beneficiary. And that might help in turn then to allow the native either tribal entities or corporations or whatever institutional framework has been established for native people to come to a conclusion or resolution they might not otherwise feel the necessity of coming to.

Mr. VENTO. Will the gentleman yield, please?

Mr. ABERCROMBIE. Well, I think I am out of time, but I certainly would.

Mr. CALVERT. I think that the next panel would probably illuminate this issue considerably, but the next gentleman to be recognized is Mr. Farr.

Mr. FARR. Thank you, Mr. Chairman. I really appreciate that. Mr. Herrera, it is good to see you again. I don't know if you remember when we met in Alaska. I think it was Betty Fairencamp who

introduced me to you and some of the other—weren't you working at that time with British Petroleum?

Mr. HERRERA. Yes, that is correct. I worked for them for 33 years before I retired and became a free man a couple of years ago.

Mr. FARR. Well, I just have an interesting question because you now represent the not-for-profit grassroots citizen organization. And, you know, Congress is debating right now a law that would say that if your organization received any Federal moneys, you couldn't be sitting at that table.

Mr. HERRERA. Yes, but we don't receive any Federal moneys.

Mr. FARR. And, Mr. Cline, if he were with the Audubon Society and received any Federal moneys, he couldn't be at the table either. But the law doesn't prohibit any organization that receives state moneys. Do you receive any money from the state of Alaska?

Mr. CLINE. Myself? No!

Mr. FARR. No, Mr. Herrera's organization.

Mr. HERRERA. Arctic Power does, yes. It receives money from the state of Alaska for specific actions concerning this effort to open up the Coastal Plain.

Mr. FARR. Well, the point, and it doesn't really need a response from my colleagues and it is too bad so many have left because the law that we are adopting would ban some organizations from sitting at that table because they advocate environmental interests and they receive Federal dollars, but it wouldn't ban organizations that support lobbying for mineral exploration as long as they didn't get any Federal dollars, but they could get from the state of interest. So that is just a comment that you might think about.

What I really want to focus on, one thing that I really enjoyed about Alaska, probably the most thing, I came home and I told my wife. She said what do you think of Alaska and I said it is incredible. I said I have never been more impressed by the vastness, by the quantity of everything, the quantity of mountains, the quantity of wetlands, the quantity of rivers. I said it is just as far as the eye can see, that is all you can see. You know, for those of us living in the Lower 48, we are just, particularly in California where urban sprawl seems to be our best economic product, we need the Alaskas to go to.

And that is why the issue of this wilderness, this idea that the vastness of Alaska, I think in the long curb, is going to be your greatest economic asset. There are people that are going to want to come to see things that you can't see anywhere else. And I think that will be a world attraction because the world is getting homogenized. All our communities are looking exactly alike.

So the question—and it is interesting in the book that you gave us, this is a beautiful book, the Alaskan National Wildlife Refuge, the only full page photograph in here is of just the vastness of wilderness. There was nothing on it.

You know, Congress' biggest debate right now down on the floor that we are missing is whether cities will have the power to ban a utility pole being put up for these—for the cellular telephones. And the biggest debate is that the cities want that power to be able to say no, but they want to keep development, even something like that, out of their communities and yet when we get to developing

oil we can't really put that into the formula of the value of not developing it.

So the question I really have, and it goes to Ms. Brady, is why now. Why develop now? Why not with the picture of where the oil is going in the world, why not just set that aside and say essentially this is an oil and gas reserve and indeed when there is beyond a reasonable doubt, then we can revisit it. I just can't see the urgency with this thing. And it is always jobs and money, but frankly opening up jobs in Alaska and developing more jobs in Alaska will curtail the development of oil in my own county.

We have got expensive oil to drill. If the price goes up and they will go—Texaco will drill more oil in my county, so it is my advantage not to see you open. I mean, this oil bounces all over the world. It is international market, as you indicated.

What is the need to do the Alaskan National Wildlife Refuge now?

Ms. BRADY. The question is one of infrastructure that is already in place and keeping that infrastructure in place. We do have a pipeline now that can access that oil.

Mr. FARR. So it is the need to fill the pipeline?

Ms. BRADY. That is—sir, there is several issues. That is one of the issues. The other issue is that we have been looking at this question for a very long time. You mentioned earlier, you said let us not rush into judgment. This has not been a rush into judgment. This has been a very, very long process. And one thing you talked about that is very interesting, all of us came to Alaska about the same time and have known each other a long time, sometimes on the same side of the table and sometimes on the other side of the table.

I came in '63 and spent a lot of time in Gwich'in country on the Yukon River in those areas. And Sarah will tell you what it was like to live, to grow up in Arctic Village and Venetie then. Sometimes the caribou didn't come around. And, you know, we talk about kids going out to Chamawa and Chelako, the little six-year-olds with the buttons on to go out to school because that was the only place to go. But apart from that, there was about 3000 kids that never got to go to school. We had the highest TB rate in the country. We had the highest infant mortality death rate in the country and oil changed that for us.

Oil gave us the money to have schools in every village. The jobs that are in the village, a lot of them come from—and the larger communities, as well, come from, you know, money from oil. We are a very different society. I have three children that live there. They can all get jobs. So this is not just big oil. This is people living well without sacrificing their wilderness values. We didn't choose to live in California. A lot of us moved from California, you know, to live the life.

Mr. CALVERT. In the interests of time, and I know Mr. Joyce has a plane to catch, I want to thank this panel for coming here such a long distance. We certainly appreciated your testimony and thank you very much.

The next panel, third panel, will consist of Mr. Oliver Leavitt, the Vice President of the Arctic Slope Regional Corporation and Ms. Sarah James with the Gwich'in Steering Committee.

Mr. Leavitt, you could go ahead and—

Mr. LEAVITT. If you don't mind, Mr. Chairman, as I have been taught as I was young, ladies first.

Mr. CALVERT. OK, that is perfectly correct. Ms. Sarah James, you may begin your testimony.

STATEMENT OF SARAH JAMES, GWICH'IN STEERING COMMITTEE

Ms. JAMES. That is fine with me. I am a squaw. I walk behind the man, supposed to be. I respect that.

I have a written testimony that is handed to the committee and thanks for being here and allowing me to talk about my people. Excuse me, I am just kind of unorganized right here.

[Ms. James' comments in Gwich'in available through Chris Kennedy.]

I said today I speak for water, air, land. They cannot speak. The creator put us here to speak for the earth, to talk for them. So I am here today to talk for especially caribou. And I said my grandpa, Albert E. Tritt, spoke on the same issue. My father Usias [ph] James spoke on the same issue and my sister, my great sister Ena Ursol [ph]. And they pass on and here I will be talking about it today.

My name is Sarah James and I am a Netsi Gwich'in from Arctic Village, Alaska. Thank you for inviting me to speak for my Gwich'in people. I am here with the direction of the Elders of the 15 Gwich'in villages.

Earlier Senator Stevens was saying this is just only two village that is—he was talking about the two village that didn't go with Alaska Land Claims Settlement Act. That was Arctic Village and Venetie. We have land of 1.85 million acres under ownership of the land. We are the ownership of the land and we govern ourself of that. Plus this other village that signed on to protect the Porcupine Caribou calving ground and they came together back in 1988 and they still united on this issue. The other Alaska villages are Steven Village, Fort Yukon, Chalkyitsik, Beaver, Birch Creek, Circle, Canyon and Eagle sign on with us on U.S. side. And then Canada side for same people, same caribou, same relation there is a Aklavik, Inuvik, Fort McPherson, Arctic Red River and Old Crow. So all these villages sign on with one voice to protect Porcupine Caribou herd. I just want to clarify that.

My hardest part of my job is to explain this whole thing from English into my Gwich'in language to the Elders when I get home. My language is still Gwich'in language, first language. English is my second language. I feel that I have a right to speak. I have this constitutional right to speak as a first nation.

One of the things that we don't see in Arctic Village since where it is located, every summer lots of people from Congress come to Alaska to see Prudhoe Bay and to visit the oil company. They fly over the refuge and go to Kaktovik, but they never stop in Arctic Village. We always invite them to come to Arctic Village so we can show them our way of life.

Earlier there was mention that we were poor. I am not going to cry about my childhood. I think my childhood was great because my parents taught me how to take care of the land and in order

to take care of me in return. So if I don't have one button, nature can take care of it. And I can—I would be more willing to cry about my—the children of the future. That is why we are here and concerned about what is going on with our caribou and what is going on with the earth.

My people have lived on this land for thousands of years. You cannot understand this issue by flying over the refuge and meeting only with the people who want oil development. So today I invite you all to stop in Arctic Village during your visit to Alaska this summer or any time of the year, like in the winter, January. See us, how we live the middle of the winter. If there is nothing up there, we still live up there.

What happens to Arctic Refuge is not only the environment issue. It is human rights issue too, because the survival of the Gwich'in culture depends on the protection of birthplace of Porcupine Caribou Herd. It is the basic tribal rights we have to carry on our tradition way. Yesterday I was talking to this one person and he doesn't know what a traditional way means. I said well, like to me traditional way, it doesn't have to be—that is how we got together and that is how we made this decision back in 1988. We talk in the Gwich'in and the Elders direct us to protect the Porcupine Caribou Herd.

[Statement of Sarah James may be found at end of hearing.]

Mr. CALVERT. Ms. James, I am sorry to interrupt. We are expecting a vote, I understand, anywhere within the next five to 15 minutes. And if you could finish up your testimony in a little bit, then we can move on over to the next witness and then we will have time for questions.

Ms. JAMES. OK, thank you.

Mr. CALVERT. I appreciate that.

Ms. JAMES. And I got it all written up in my testimony and I already—I have additional that I want to hand in because there is always a question about the oil exploration on Gwich'in land. I have got a fact sheet on that I would like to hand in.

Mr. CALVERT. Without objection any information that you have there we will insert into the record.

Ms. JAMES. OK, good. Thank you. And all I can say is that we remain united against the oil development within the Porcupine Caribou calving ground. And it is a sacred ground to us because we are caribou people and we won't be there today if it wasn't for caribou. So thank you again and I am willing to answer questions.

Mr. CALVERT. Thank you very much for your testimony, Ms. James. Mr. Leavitt.

Mr. LEAVITT. Thank you, Mr. Chairman, members of the committee. In the interest of time I would like to submit for the record my full testimony and my summary. I would just like to additionally say a few words.

Mr. CALVERT. Without objection.

[Statement of Oliver Leavitt may be found at end of hearing.]

STATEMENT OF OLIVER LEAVITT, VICE PRESIDENT, ARCTIC SLOPE REGIONAL CORPORATION

Mr. LEAVITT. Mr. Chairman, my name is Oliver Leavitt. I am the Vice President of the Arctic Slope Regional Corporation, and I ap-

pear before you as the Vice President of the Regional Corporation in that capacity. I am also the President of Borough Assembly in the North Slope Borough.

The Regional Corporation which derived—which came about from the Alaska Native Claims Settlement Act, is in full support of the development for leasing in the Coastal Plain. Initially in the very beginning, I think if you heard Judi Brady suggesting that there was lawsuits by the Eskimos, that was us, because at that time we had the fear of the unknown. We thought that the caribou would be decimated. We thought the waterfowl, the fish would be all gone because of the development on the North Slope. We have since changed our mind.

We are in support of development in the Arctic. We have seen what the development can do, the jobs it provides, the security that it provides. In those days we didn't have the discovery at Prudhoe Bay. We did not have the facilities, the schools, the hospitals, the clinics, the airports, police protection, fire protection, those simple things did not exist. I had to go 2000 miles just to get a high school education. Those now do exist. We enjoy the development of Prudhoe Bay and it has been done with a sound environmental protection.

The future of our kids is at hand in the question of the leasing and the development of ANWR. What really scares us is that we understand now that Prudhoe Bay is now starting to decline and that makes any people nervous. Once we got the comforts that we have derived because of the discovery of Prudhoe Bay, it makes us nervous about our schools, about our airports, police protection, fire protection, medical things that we now have. We have created companies through the Regional Corporation in providing jobs for our shareholders in Prudhoe Bay. Most of our companies are with oil. We have started to diverse from oil development in our company as the Regional Corporation, but by and large it is still largely dependent on Prudhoe Bay and the oil pipeline.

And so—and what I would like to further say is that the people up there were initially scared and they are not scared anymore. They have seen what has happened to the caribou in Prudhoe Bay, what these people previously before me stated. They have grown to large numbers. We have seen the caribou in the western Arctic, in the central Arctic, they have not diminished. We don't think that the development of ANWR would have an adverse impact on the caribou or any waterfowl.

I thank you, Mr. Chairman, in the interest of time.

Mr. CALVERT. Thank you, Mr. Leavitt. We appreciate your testimony. I have a couple of questions. Ms. James, by the way, I thank you for your invitation, and if I have the opportunity I would love to come up to your village and visit your area. I understand it is a couple of hundred miles away from the North Slope and a little difficult to get to, but hopefully we could work out some kind of arrangement. It is possible.

Isn't it true that several thousand Eskimos live on the North Slope as well and they, as you are aware of, and they are pretty much totally in support of the development of oil resources along the Coastal Plain.

Ms. JAMES. Yes, I know that and I have no question and they are in the process of their development with oil and gas development, with the Prudhoe Bay, everything else like that, but what we are saying is that no development within the Porcupine Caribou calving ground of the 1002 area. And that is popular interest land, Federal public interest land. And they have their own, under ANSCA, selections of lands that I don't have no word to say about it and I can't speak for them.

Mr. CALVERT. Do caribou migrate across your village lands also? Have they ever have?

Ms. JAMES. Yes, every year. Every year, mainly into Canada and back and some over—it varies, but they tend to come by there every year.

Mr. CALVERT. Mr. Leavitt, doesn't your people rely on the Porcupine Caribou Herd for subsistence also?

Mr. LEAVITT. Yes, they do, Mr. Chairman. The village of Kaktovik, which is located within the so-called ANWR, do subsist off the migrating caribou.

Mr. CALVERT. So it is fair to say that you care as deeply about the future of the Porcupine Caribou as much as the people from, as your neighbors 200 miles to the—

Mr. LEAVITT. Yes, we do very much. We would be opposed to it if we thought—like 20 plus years ago, we would have the same reaction. But now I think it is very, very different. We see the caribou is a lot more compatible toward development than we previously thought.

Mr. CALVERT. I can only imagine what life must have been like 30 years ago. You were raised in that area, very cold, very desolate, very few people. Being from southern California, the desolate part sounds nice sometimes, but it must have been a very hard life. You had to go out and obtain your own food, hunt for your own food. Life is a lot different today, I suspect.

Mr. LEAVITT. Yes, it is. And I was—when I was a child, matter of fact I was probably one of the best students because I loved going to school because the government buildings were the only ones that were warm 24 hours a day. When I woke up if I had a glass like this and it had a little bit of water in it, it was broken because there was no heat in the house. And until the discovery of Prudhoe Bay, we didn't have 24-hour heating in our homes.

Mr. CALVERT. So there is fear on the part of your people that as this production declines and if the production cannot maintain enough oil to go into the pipeline, that all of that may just go away.

Mr. LEAVITT. That is very true, Mr. Chairman. We are afraid to turn the page back. Anybody would.

Mr. CALVERT. I see. Ms. James, how many—I mentioned a couple hundred miles. I am not quite sure of that. How many miles is it from your village to the southern border of the 1002 area?

Ms. JAMES. A hundred miles. And it is within Inupiat traditional land, but we are not saying they can't subsist or hunt and fish, whatever, in their traditional land, but then what we are saying is that Porcupine Caribou calving ground is sacred and shouldn't be disturbed at any rate. And we have no control where caribou, Porcupine Caribou, want to calve. And this is where they calve for thousands of years.

Mr. CALVERT. Have you been able to continue to have a reasonable supply of caribou in the last 20 years since oil production has taken place right next door at Prudhoe Bay?

Ms. JAMES. Oh, yeah. It is—we still practice—every year we go out and—like, right now we go out and hunt and smoke and dry fish for the winter and we also have a solar system freezer where we save our meat and it is really—I mean, life is good and we want to keep it that way. And we still live off the land and still drink water from the stream and we don't have running water but we are happy with what we have got and we are rich in our heart with the land and what is up there that is natural world.

Mr. CALVERT. That is certainly—that is good. I understand from the testimony today, however, and this is my last comment, that the caribou population has done quite well since oil production has taken place in Prudhoe and—

Ms. JAMES. Oh, you are talking about—excuse me.

Mr. CALVERT. And that enough studies have taken place to show that the populations would be protected if not continue to rise, but—possibly rise, but continue to be protected from everything we see. But I am out of time and I will pass the questioning to Mr. Vento.

Mr. VENTO. Thank you. Thank you, Mr. Chairman. I think that obviously we will disagree about the Central Caribou Herd. Obviously the Gwich'in people rely on the Porcupine Caribou Herd and this calving. I mean, the issue here is absolutely unique. Here you have two native American, indigenous groups that are surviving in a different way. Obviously Sarah James is living within the culture and the traditional manner and obviously Mr. Leavitt has chosen a different path. I think it is great that you have these choices, but I think that here we have, ironically, a potential conflict that arguably is certainly a conflict between development of the caribou calving grounds and the impact that would have in terms of the traditional life of the Gwich'in groups and tribe.

And so it is a very interesting testimony that we are receiving on this and I think it, you know, it points out that not only do you need a sort of ecosystem management, but here you have these wandering type of migratory herds that really don't really occur in the Lower 48 anymore. How do you deal with this particular type of problem? Obviously it is a very, very serious matter in terms of the way of life. It is easy to talk about problems in Amazonia. It is a little more difficult when they are occurring in Alaska.

But, Mr. Leavitt, your organization and Department of Interior structured a 1983 exchange so that the Arctic Slope Regional Corporation could acquire some of the most prospective oil and gas rights in the ANWR, but at the same time avoid sharing 70 percent of the revenues with other Alaska native corporations as required by Section 7(i) of the Alaska Native Claims Settlement Act. I might add which the Gwich'in, of course, are not part of. So they don't really have an interest in this. But would you accept compliance with 7(i) as a condition for Congress to authorize the development of your lands?

Mr. LEAVITT. I am not sure that I quite understand your question.

Mr. VENTO. Well, would you share the revenues if your lands were to be developed. Would you accept as a condition of development the sharing of revenues from those lands.

Mr. LEAVITT. Unless Congress changed that, and——

Mr. VENTO. I am asking your position. I know——

Mr. LEAVITT. No, I would not.

Mr. VENTO. You would not.

Mr. LEAVITT. I am a director of the Arctic Slope Regional Corporation and any way that I can protect the people of the North Slope I will do so, as long as it is legal.

Mr. VENTO. Well, I mean, I am just——so you are saying no, that you would not accept that. Obviously some of us——

Mr. LEAVITT. Well, I should be fired for even thinking it.

Mr. VENTO. Yes, well, I am just asking a question. I am not suggesting what your answer should be. You know, you are free to answer yes or no or explain. If you want more time to answer, I will give you more time. Do you want more time?

Mr. LEAVITT. There was a deal that was cut in the settlement of 7(i) between the 12 regions. And one of the stipulations was that if you exchange surface for subsurface there was not 7(i) involved. We exchanged a piece of property with the United States Government which was surface lands to subsurface, which precludes it from being 7(i).

Mr. VENTO. Are there other exchanges that have occurred like that in regional corporations that you can point out to me?

Mr. LEAVITT. No, not that I know of.

Mr. VENTO. I don't know of any others either. It is my understanding that the Village Corporation may have an additional entitlement to some 4200 acres of surface within the Coastal Plain, thus giving the Arctic Slope Regional Corporation an additional entitlement, the same amount of subsurface, in other words, another 4000. This actually projects down into the Arctic National Wildlife Refuge considerably. Is it your view that this additional selection is subject to Congressional approval? Do you have a view with regard to that, the splitting off of this——

Mr. LEAVITT. Yes, I believe that is subject to Congressional approval, yes.

Mr. VENTO. You do believe it is?

Mr. LEAVITT. That was amended—that was made subject to the approval.

Mr. VENTO. These have substantial economic benefit that inures obviously to the benefit, if there is oil, of the regional corporation. But at the same time, these types of exchanges diminish greatly the value of what the lease value might be that flows to the Federal Government. So I think for the record it is important to note here, and I only can do it orally, I don't have any documentation, but I think the record should reflect that if indeed these types of exchanges were to go through, and even what has gone through here substantially diminishes the value of what we might get in terms of leases because of the way that this has been extrapolated and cantilevered during the early 1980's and might be done right now.

So I appreciate the fact that you believe it would be subject to Congressional approval. It would also, of course, reduce state reve-

nues and reduce Federal revenues and it would provide access to the KICX explanatory well data, because they do have more information. In other words, they are in turn leasing these to a couple select companies. And in fact, they have done that and have earned revenue.

What has been the revenue from the leases that you have made with these private companies? I can't remember them right now, but Chevron is one and——

Mr. LEAVITT. Well, Congressman, with all due respect, do you believe in private property rights?

Mr. VENTO. Well, I do believe in private property rights. I was just wondering here. You don't want to answer the question as to what the revenue is that has been acquired?

Mr. LEAVITT. We have received some revenues. Initially we received \$24 million for the right to explore.

Mr. VENTO. From one company and then you received something else from another one? My information is it was a little bit higher than that.

Mr. LEAVITT. Well, no, there is another \$12 million that is in—that has been in escrow.

Mr. VENTO. OK.

Mr. LEAVITT. Then we received some——

Mr. VENTO. We are just trying to get information for the record so that we can make decisions on this. That is what we are doing. Obviously you have to conduct your business as a business. I expect you to do that and——

Mr. LEAVITT. Well, I would expect that Congress would also respect their deal that they made with the Alaskan natives that if I am entitled to another 4000 acres that I should be entitled to it and be given so.

Mr. VENTO. No, I think the question here is whether or not that would be a subject of 7(i), whether or not it would be in areas that are not available for exploration. The issue is that we have a prohibition in this area against exploration. That is the issue we are talking about, who the beneficiaries are, who gets impacted, what the revenue stream is to the Federal Government, what the impact is on others. I think that the Gwich'in people may feel that they have rights, too, in subsistence existence. The exchange by the DLI, incidentally, in 1983 was something that was done by Secretary Watt. No one in Congress had any voice in that. In other words, it was not our deal and I don't——

Mr. LEAVITT. But under the Alaska Native Settlement Act it was permitted.

Mr. VENTO. Well, it was not something that came before Congress. It was hotly contested. As a matter of fact, there are several GAO reports and other information out on it. We suspect, of course, that the Secretary of Interior at that time did that as a basis to try to provide leverage for in fact opening this up to oil development and in fact putting before us the type of blunder we have exactly here today.

Mr. CALVERT. One thing I want to do before we move over to Mr. Abercrombie to kind of lay to rest native Americans, whether or not they should share the revenues any more than the Indian

tribes in Connecticut or Minnesota share their revenue with poorer tribes in California, Nevada or Arizona, which they don't.

Mr. VENTO. Well——

Mr. CALVERT. Which is a contingent with the Indian tribes that——

Mr. VENTO. Well, the Chairman, I believe——

Mr. CALVERT. Which is their decision to make.

Mr. VENTO. Other members, it is not the decision of the native American tribes to make in this particular instance because this is part of the law. 7(i) is part of the Federal law in terms of sharing of the revenues from mineral receipts. Obviously, the Gwich'in people are not part of that regional corporation or part of the law. They did not get under the selection, but that was the issue. And this of course, I think, circumvents it. I think the fact that it hasn't occurred in any other native American groups or regional corporations stands in itself.

Now if we want to pursue that, you can bring an amendment up, Mr. Chairman, and you can pursue it in terms of letting them make the decisions on their own. But that wasn't the deal that was passed in ANSCA or ANILCA.

Mr. CALVERT. I will leave that to you to——

Mr. VENTO. That was not the deal.

Mr. CALVERT [continuing]. do that, Mr. Vento. Mr. Abercrombie.

Mr. ABERCROMBIE. Yes, thank you, Mr. Chairman, Mr. Vento. It is nice to see both of you folks again. Aloha. I hope that this issue can be resolved in some manner that will be beneficial to the native people in a way that doesn't leave you at odds with one another.

Ms. James, I don't know as we have had a chance to discuss very much before. Can you give me your view as to the proposition I put forward that should the people in Kaktovik wish to pursue drilling, subsurface drilling on the slant drilling that might come in under the plain but be from the land that is legally theirs now, would you object to that?

Ms. JAMES. I would object to it now because I don't know anything about it. I have to learn about it before I——

Mr. ABERCROMBIE. OK, that—all right, that is a good answer.

Ms. JAMES [continuing]. can say yes or—it is up to my leaders.

Mr. ABERCROMBIE. I withdraw, actually, that question. I mean, you heard me make this proposition. What I am saying is that I would hope that you would look into it to see whether or not that would violate your sense of the rightness of things in terms of the proper use of the plain and the role of the herd.

Ms. JAMES. Yeah, I don't know how safe it is——

Mr. ABERCROMBIE. I understand.

Ms. JAMES [continuing]. or anything like that. So I can't give you the answer——

Mr. ABERCROMBIE. I just put forward to you the proposition. It might be worth looking into.

Ms. JAMES. Yeah.

Mr. ABERCROMBIE. Just as a way possibly of meeting at least some of the desires of Mr. Leavitt and the Arctic Slope Corporation.

Mr. Leavitt, can I ask you, have you had an opportunity at all to think along those lines at all about the idea of drilling in the

land which is now not disputed, which your corporation has responsibility for and authority over, and doing some drilling there possibly even with the idea of doing what I call slant drilling.

Mr. LEAVITT. We would love to slant drill if we can keep the oil and produce it. Right now we have 92,160 acres. Initially Kaktovik had that right to select that much. And in any other area we could—we had to pick up a subsurface of whatever they selected. In this case we had to go through a land deal to get a land exchange.

Mr. ABERCROMBIE. Right.

Mr. LEAVITT. To get the 192,000 acres, but Kaktovik was only allowed to get 69,000 acres. The fourth township was outside the wildlife refuge so we brought that back in when we made this land exchange to make their lands whole, to be contiguous. And so it is that fourth township that we don't have a right to drill on. We have the right to drill on the three townships, which is 69,000 acres, but there is a prohibition upon—

Mr. ABERCROMBIE. Well, maybe that could be addressed at some point.

Mr. LEAVITT [continuing]. upon production on development. We don't have the right to develop it. We have the right to drill it.

Mr. ABERCROMBIE. I understand.

Mr. LEAVITT. But we don't have the right to drill that—

Mr. ABERCROMBIE. All I am suggesting is that absent a resolution about ANWR, you know, the whole argument that goes on here year after year, maybe there is something that still could be done which accommodates Ms. James' position and would nonetheless enable you to involve yourself in production. And both sides maybe would not be totally satisfied at that point, but both sides would be not put at a disadvantage and you might find that the Arctic Slope Regional Corporation is able to get something rather than nothing. And the something might be considerable.

Mr. LEAVITT. Well, I appreciate that, Congressman. The only problem is if there is not enough oil within the Arctic Slope Regional Corporation as Kaktovik lands we need that other for further development for the future use.

Mr. ABERCROMBIE. I understand that, but I am saying that my understanding as a lay person about the technology as it is developed is that it is now possible to go beneath the surface without starting right above it, but go beneath the surface and go at an angle, a considerable angle.

Mr. LEAVITT. Directional drilling.

Mr. ABERCROMBIE. Up to three miles, even. And the Kaktovik land now extends out into the plain and three miles from that it might in effect be like six miles. You go in different directions. In other words, the technology is very sophisticated now that enables drilling and production to take place without hitting the surface or causing you to have to go directly down from the surface. And all I am suggesting, Mr. Chairman, is that I have been told that that is something that is worth exploring with the idea of protecting the surfaces Ms. James would like to see and at the same time enabling the Arctic Slope Regional Corporation to have a good shot at getting developable, retrievable oil without having to go directly down from the surface.

I will just leave it at that because it is something that needs to be explored. But I am hopeful that this could be worked out, because I think you both know that the native Hawaiian people have great love and aloha for you and identify with their Alaskan neighbors and friends and hope that this situation can be resolved on behalf of the ancient and honorable culture that exists in Alaska.

Mr. CALVERT. Thank you, Mr. Abercrombie. In closing, I think part of the problem here is the amount of reduction that needs to be obtained in order to keep the pipeline open, which the infrastructure of which would be probably impossible to replace. And under the agreement in which the pipeline was installed, if production ceases then that pipeline has to be removed and taken back to its original condition underneath it.

I would like to thank all the witnesses today for attending. You came a great distance to be with us. We certainly appreciate your testimony. It helps us as we determine what will occur in Alaska, in your beautiful country—your state I should say. Thank you very much. We are adjourned.

[Whereupon, at 3:00 p.m., the committee was adjourned; and the following was submitted for the record:]



DEPARTMENT OF THE INTERIOR
INFORMATION SERVICE

OFFICE OF THE SECRETARY

For Release NOVEMBER 20, 1957

SECRETARY SEATON PLANS TO OPEN 20 MILLION ACRES IN ALASKA
TO MINING, MINERAL LEASING; BIGGEST WILDLIFE RANGE SOUGHT

Initial steps have been taken to open to mineral leasing and mining claims 20 million acres of northern Alaska public lands, and nine million acres in northeast Alaska have been set aside temporarily for future establishment of the Nation's largest wildlife range, Secretary of the Interior Fred A. Seaton announced today after conferences in Washington with Alaska Governor Mike Stepovich.

The proposed action announced by Secretary Seaton would leave unaffected the 23-million acre Naval Petroleum Reserve No. 4, which area was included in a 1943 public land order (PLO 82) withdrawing more than 48 million acres in northern Alaska from all forms of entry under the public land laws, including mineral leasing and mining entry.

Secretary Seaton said a notice of intention to modify PLO 82 so as to permit resource development outside of the Naval petroleum reserve was signed today after he was assured that the Department of the Navy does not oppose the move, and further assured by the Geological Survey that the petroleum reserve will be adequately protected by a two-mile strip around its perimeter. The Secretary pointed out that this "buffer zone" is double the area presently required by departmental regulations.

The action taken by the Secretary today would operate to provide a 30-day period during which the public may submit written comments on the proposed PLO 82 action.

Governor Stepovich hailed the proposal opening the area outside the petroleum reserve to oil, gas and other mineral leasing, and to mining as "a tremendous step forward in developing of Alaska's natural resources."

The separate action announced involves temporary withdrawal of approximately nine million acres in northeastern Alaska—of which five million acres are located in the eastern end of the PLO 82 area—pending final determination of boundaries of a proposed Arctic Wildlife Range. The Secretary said that the Fish and Wildlife Service, at his direction, had filed the application in the Fairbanks land office on November 19, as the initial step in segregation of these lands from entry under the public land laws.

Not any of the 20 million acres proposed for release are expected to be open to staking of mining claims until about September 1, 1958, Secretary Seaton said. Much of the area is unsurveyed, and he said no acreage would be available for oil and gas leasing until leasing maps are prepared for the affected lands. He also emphasized that the modification order will not be signed until after its terms are published in the Federal Register and a study is made of comments received in a 30-day period following publication.

The Secretary explained that PLO 82 withdrew a total of about 48.3 million acres in Alaska from sale, location, selection and entry under the public land laws. It also withdrew other lands in southern Alaska, but those withdrawals have already been revoked. Secretary Seaton said the new modification would:

- A. Keep Pet. 4's 23 million acres intact behind the additional buffer acreage.
- B. Release approximately 20 million acres for oil and gas leases and mining.
- C. Put aside some five million acres for potential wildlife range use.

The remaining land under PLO 82 would be accounted for by the buffer zone.

The lands lie above a line approximately 150 miles north of the Arctic Circle. Most of the 20 million acres proposed for release are east and west of Pet. 4.

From 1943 to 1953 the Navy and the Department of the Interior's Geological Survey explored the withdrawn lands. They found one oil field (Umiat) within Pet. 4; one very promising gas field (Gubik) partly inside but mostly outside Pet. 4, and several minor or prospective oil and gas deposits.

The proposed modification would open approximately 16,000 acres in the Gubik gas field to competitive leasing, Secretary Seaton said, while about four million acres flanking the Gubik structure would be opened to noncompetitive leasing, with a 60-day period for simultaneous filings.

Additional leasing periods will be provided as maps are prepared and published, he said.

The area sought for the proposed Arctic Wildlife Range extends from the Canada-Alaska border westward to the Canning River, in some places 120 miles distant. From the Arctic Ocean it extends as far south as 140 miles to the south slopes of the Brooks Range.

The request asks that the withdrawal preclude all forms of public land appropriation, except that mineral leasing would be permitted after next September 1, as would mining operations.

However, hunting and taking of game and fur-trapping would be permitted in accordance with Department regulations and Alaska game laws, Secretary Seaton said.

The Secretary stated that the Fish and Wildlife Service of the Department of the Interior stressed the area's unique values in wildlife, wilderness values and scenery.

Grizzly and polar bears, Dall sheep, wolverine and great caribou herds are among its large game. Countless lakes, ponds and marshes are nesting grounds for huge flocks of migratory waterfowl which spend about half the year in the United States. The fowl are among nearly 100 bird species in the area. Numerous small land creatures abound.

Mount Michelson and Mount Chamberlain, each more than 9,000 feet in altitude, are arresting scenic aspects.

Despite the Arctic location, the area in summer times offers fine wilderness recreation for explorers, hunters, fishermen, mountain climbers and photographers.

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501 Pennsylvania Ave N.W.
Washington, D.C. 20001

July 31, 1995

RECEIVED

AUG 2 1995

WASHINGTON, DC

The Honourable Bill Richardson
House of Representatives
Rayburn House Office Bldg., Rm. 2209
Washington DC 20515-3103

Dear Congressman Richardson,

On the occasion of your committee hearing on the Arctic National Wildlife Refuge, I am writing to express Canada's concern about proposals to open the coastal plain to oil and gas exploration and development. Canada believes that opening the Refuge to such development will disrupt the sensitive calving grounds and the migratory patterns of the Porcupine Caribou Herd on which thousands of Canadian and American Aboriginal people depend.

Last week I visited the village of Old Crow, Yukon Territory, to meet with the Gwich'in community there. I came away with three basic impressions. The first was the utter dependence of the Gwich'in on the Porcupine Caribou Herd, not only for their nutrition but also for their social cohesion and cultural identity. They are truly "People of the Caribou".

The second impression was of tremendous anxiety among the Gwich'in about development in the 1002 lands disrupting the natural cycle that has been followed by the caribou and by extension, the Gwich'in people for many hundreds, perhaps thousands of years.

The third impression was the sense of grievance among both the Canadian and American Gwich'in that it is they who will assume the greatest risks, with no apparent means of redress, if the assurances of modern industry prove false.

In 1984, Canada gave wilderness protection to its portion of the caribou calving grounds by creating the Northern Yukon (now Inuvavik) National Park. In signing the 1987 Canada-U.S. Agreement on the Conservation of the Porcupine Caribou Herd, both nations recognized the transboundary nature of these wildlife resources and our joint responsibility for protecting them. Canada believes that the best way to ensure the future of

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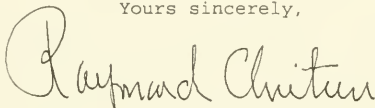
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the shared wildlife populations of the Arctic Coastal Plain is for the United States to designate the 1002 lands as wilderness, thereby providing equal protection to this irreplaceable living resource on both sides of the border.

Canada is not opposed to environmentally responsible northern development. But it is a principal of good neighbourliness and international law that states have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to other states.

I hope that you will find Canadian views helpful in considering these important questions. I would appreciate it if this letter could be included in the record of the hearing.

Yours sincerely,

A handwritten signature in dark ink, reading "Raymond Chrétien". The signature is written in a cursive, flowing style with a large initial 'R'.

Raymond Chrétien
Ambassador

TESTIMONY OF THE SECRETARY OF THE INTERIOR
BRUCE BABBITT
BEFORE THE COMMITTEE ON RESOURCES
UNITED STATES HOUSE OF REPRESENTATIVES
ON THE ARCTIC NATIONAL WILDLIFE REFUGE

August 3, 1995

Mr. Chairman, Members of the Committee,

I very much appreciate the opportunity to appear before the Committee to discuss the Administration's position on maintaining the integrity of the Arctic National Wildlife Refuge.

Mr. Chairman, I commend you for holding this hearing and providing all interested parties an opportunity to be heard. And I urge this Committee to follow these hearings with a full debate of legislation independent of the Budget Resolution and reconciliation process. The fate of the Arctic National Wildlife Refuge is a matter of great national significance, and it should not be summarily treated by this Congress as just another revenue item. The wildlife and wilderness values of the refuge are irreplaceable resources that we have the opportunity to pass on to future generations.

I would like to briefly state the Administration's perspective on the fundamental question before us and then turn to the issue of the revenue projections which appear to be driving this issue in the Congress.

Mr. Chairman, the Clinton Administration supports the U.S. domestic oil and gas industry. We have supported efforts to increase oil recovery in the deep waters of the Gulf of Mexico by allowing appropriate royalty incentives. We have also supported the repeal of the ban on exporting Alaskan crude oil, subject to conditions, in order to increase production in Alaska and prolong the life of existing oil fields. We have conducted a number of

extremely successful environmentally sound OCS lease sales -- and we plan to conduct more. We have leased more onshore oil and gas acreage annually than was leased in the previous administration. We have worked cooperatively with the industry to address ongoing problems and issues and to streamline necessary regulatory oversight -- both at my Department and at the Energy Department.

Yet this Administration opposes allowing oil and gas development on the coastal plain of the Arctic National Wildlife Refuge and I would recommend to the President that he veto any legislation that would authorize it. This Administration believes that the best interest of the American people and the oil and gas industry is served by a balanced policy consisting of promoting exploration and development, protecting our natural heritage, and fostering the development of conservation and alternative energy sources. So far the proponents of drilling have not offered to consider the Arctic National Wildlife Refuge System in the context of an overall national energy policy, encompassing a review of alternative energy sources and the prospect for conservation.

Instead, the proponents are asking us to offer up the last protected part of the Arctic coastline as part of a plan to eliminate the deficit and balance the budget in seven years, instead of ten years as President Clinton has proposed. In effect, we are being asked to jeopardize an irreplaceable piece of our national heritage over a three year difference in budget projections by the people in green eyeshades.

The Arctic National Wildlife Refuge is the last protected fragment of the great coastal plain where America goes down to the polar ocean. More than 85% of the Arctic coastal plain has already been opened to oil exploration and development. The story of Prudhoe Bay in the central coastal plain is well known. Less known is that the entire coastal plain west from Prudhoe Bay

to Icy Cape and the shores of Siberia is also designated for oil development, most of it within the Congressionally designated Arctic National Petroleum Reserve.

The oil companies could go west from Prudhoe Bay under existing law. Instead they are clamoring to go east, straight into the last protected fragment of the Arctic slope. Perhaps it is a sign of the times that certain segments of the oil and gas industry, emboldened by electoral changes, are now asking for everything, for the right to invade our last Arctic sanctuary for the sake, even by most optimistic estimates, of the equivalent of six months of national oil consumption.

Recognition of the unique wilderness character of the Arctic National Wildlife Refuge, and of the refuge's coastal plain goes back a long way. In 1959, Fred Seaton, the Eisenhower Administration Interior Secretary testified before the Senate calling the proposed Arctic National Wildlife Range "One of the most magnificent wildlife and wilderness areas in North America... a wilderness experience not duplicated elsewhere."

Another of my predecessors, Cecil Andrus, in 1978, encapsulated it most eloquently: "In some places, such as the Arctic Refuge, the wildlife and natural values are so magnificent and so enduring that they transcend the value of any mineral that may lie beneath the surface. Such minerals are finite. Production inevitably means changes whose impacts will be measured in geologic time in order to gain marginal benefits that may last a few years."

It was true then, Mr. Chairman, and it remains true today. I spent some time in the refuge during my trip to Alaska in 1993.

What I saw and heard and felt as I crossed the tundra and followed the streams up toward the mountains can hardly be

described. The tundra, a thousand shades of emerald and jade, sparkled in the soft light of the midnight sun. On a field of cotton flowers and saxifrage, musk oxen circled to protect their calves as a pack of wolves stalked nearby. It was late summer and the caribou had already trekked southward into the passes of the Brooks Range; the tundra was already touched with the scarlet hues of autumn, and the snow geese would soon be coming down from Wrangell Island to fatten up before the long flight southward.

One night at Peters Lake, I read the words of Barry Lopez: "Twilight lingers -- the ice floes, the caribou, the musk oxen, all drift -- the stillness, the pure light -- you can feel the silence stretching all the way to Asia."

The Congress is now proposing to interrupt this ancient pageant of wildlife moving through the seasons of an enchanted landscape. Its action will inevitably shatter the delicate balance of land and life into a thousand fragments, like pan ice in the spring breakup.

Mr. Chairman, it is easy to see why so many Americans want this special place protected. It is harder to understand why we would want to develop it -- because, of the many arguments that have been made for development, none has stood the test of time.

The proposal to develop oil in the Arctic Refuge has most often been justified on national security grounds. This argument was never very strong, for the simple reason that no single oil discovery, even a large one, can be expected to fundamentally alter our nation's oil security situation.

History has shown that national efforts to improve energy efficiency and to buffer short term disruptions through the

creation of the strategic petroleum reserve and other mechanisms have had much more impact on our oil security than have additions to domestic supply.

This is so because U.S. production is limited largely by the world price of oil. As stated in a recent Commerce Department report on the issue, "The United States is a high-cost producer compared to other countries because we have already depleted our known low-cost reserves."

The Administration recognizes the importance of U.S. energy security, and will continue to support steps that, as shown by past experience, can help us minimize the risks associated with short-term supply disruptions. We also continue to support a variety of supply enhancement and energy efficiency policies to help limit our long-term oil dependence.

The environmental arguments traditionally made by supporters of development seem to have expired along with the national security argument. Proponents of development have consistently argued that drilling and producing oil on the fragile Arctic coastal plain can be accomplished without damage to the wildlife values for the protection of which the refuge was established.

But this year, I note, your delegation has declared that the very name of the refuge -- the Arctic National Wildlife Refuge -- should be changed, so that the coastal plain -- the biological heart of one of America's greatest wildlife refuges -- would, in your new nomenclature, be called the "Arctic Oil Reserve."

The American people will see right through this name change, Mr. Chairman, and will understand immediately what it really signifies: that even those who are dedicated to opening this area to the oil industry understand that to do so will be its death knell as a wildlife refuge.

The Arctic Refuge is the only conservation area in the Nation that provides a complete range of Arctic ecosystems, functioning in balance to perpetuate wildlife populations. The area offers more wildlife diversity than any other region of the Arctic. The Coastal Plain, as noted in the 1987 Legislative Environmental Impact Statement (LEIS), is the most biologically productive part of the refuge and the heart of the refuge's wildlife activity.

The centerpiece of this living system, the Porcupine River Caribou Herd, depends upon the coastal plain for the most important part of its life cycle, for giving birth to its young, and harboring them until they are able to make the long journey south through the Brooks range to the interior.

The 1987 LEIS, on the basis of which Secretary Hodel made his recommendation to lease the coastal plain, contains a wealth of information on the potentially serious impacts to wildlife and habitat resources that are likely to occur from extensive oil and gas development of this fragile area. Biological studies since 1987 have, if anything, enlarged our understanding of wildlife use of the coastal plain, including by caribou and polar bears, and confirmed the likelihood of significant impacts. There was no question, even in 1987, that full-scale development would devastate the area's wilderness character, and there is no reason to doubt that result now.

For these and many other reasons, Mr. Chairman, it is the view of the Administration, from the President on down, that the wise and responsible course would be to continue to protect the coastal plain of the Arctic National Wildlife Refuge as wilderness, for its wilderness and wildlife values.

Mr. Chairman, I must also tell you that, in the view of the Administration, the revenue estimate of \$1.4 billion in receipts

over a five year period is wishful thinking. In our view, this revenue projection is too high as a result of four factors:

- o The State of Alaska has given every indication that it will challenge in court any revenue split other than the 90% share it believes it is guaranteed in the Alaska Statehood Act;
- o World oil prices are far below the levels projected in earlier estimates, thus increasing the necessary size of any viable commercial deposits;
- o Congress should take into account the fact that net returns to the Treasury from projected royalty income are likely to be significantly lowered by offsetting tax losses; and, as you heard at your earlier technical hearing,
- o New information regarding the geological structures underlying the coastal plain has led the USGS to conclude that earlier high estimates of petroleum resources should be revised downward.

Let me review each of these factors in slightly more detail.

The revenue projections from proposed Arctic Refuge leasing and development assume that the Federal Government would share revenues with the State on a 50-50 basis. Current law, which is referenced in the Alaska Statehood Act, gives Alaska 90% of Federal revenues from mineral leasing. The Department has long taken the position that Congress has the authority to change this revenue split. The State of Alaska has long taken the opposite position; namely, that the 90-10 split was in effect a commitment made as part of the Statehood compact that cannot be modified by the Congress without Alaska's consent.

The State of Alaska is currently trying to persuade the Federal courts that its position is correct. Its claim is part of an omnibus lawsuit the State has brought seeking \$29 billion in damages from the Federal treasury for assorted wrongs allegedly committed by the Federal Government. While the Department has full confidence in the legal position we are defending, any litigation involves some element of uncertainty, which has to be taken into account in making revenue projections from leasing of the Arctic Refuge.

As you are aware, Mr. Chairman, previous versions of legislation authorizing the development of the coastal plain have contained provisions to prevent the State of Alaska from bringing suit to force a 90% revenue split for the State. Considering the fact that, if successful, such a suit would reduce the Federal revenue split to 10%, which even in an optimistic projection would amount to only \$280 million in the budget period for which Congress has assumed receipts of \$1.4 billion, the Administration presumes that Congress would include similar language in any leasing authorization.

Your revenue estimates are also questionable because of changes in the economics of oil. The most notable and important change has been in oil prices and our expectations for future oil prices. As Figure 1 shows, oil prices in real or constant dollars have declined since 1984 instead of increasing as was then forecast.

Furthermore, oil prices projected for 2000 have dropped nearly 50% since preparation of the 1987 study of the 1002 area.

- o In 1987 when the Reagan Administration proposed leasing the coastal plain of the Arctic Refuge, oil prices in 2000 were expected to be \$33 (in 1984 dollars).

Adjusted for inflation and expressed in 1995 dollars, this oil price assumption for 2000 would be \$39.60.

- o Now in 1995, however, oil prices in 2000 are expected to be less than \$20.00 (\$19.13 in 1995 dollars is the average of High and Low World Oil Price Projections from EIA Annual Energy Outlook, 1995).

This sharp decline in oil price expectations must inevitably affect the willingness of industry to invest in expensive new prospects, no matter how attractive. Clearly, it should give pause for thought regarding the revenues being shown for Arctic National Wildlife Refuge leasing in the current proposal.

An additional uncertainty regarding the projected revenue arises from the fact that the net gain to the Treasury is very much affected by the relationship between bonuses, royalties, State severance and conservation taxes and the State's share of Federal leasing revenues. The State of Alaska has many opportunities to take a piece of this pie. Furthermore, since bonuses, royalties and State taxes are deductible expenses in computing Federal income taxes, the net gain to the U.S. Treasury may turn out to be much less than the estimated revenue from sale of these leases.

Given all of these factors, Mr. Chairman, I urge this Congress to reconsider its rush to lease the coastal plain of the Arctic National Wildlife Refuge.

Opening the Arctic Wildlife Refuge to oil drilling is the equivalent of offering Yellowstone National Park for geothermal drilling, or calling for bids to construct hydropower dams in the Grand Canyon. We can surely find a better way to both produce energy and conserve our natural heritage.

**TESTIMONY OF
COMMISSIONER JOHN SHIVELY
STATE OF ALASKA, DEPARTMENT OF NATURAL RESOURCES**

**BEFORE THE
HOUSE RESOURCES COMMITTEE**

**REGARDING
LEASING OF THE 1002 STUDY AREA OF THE COASTAL PLAIN
TO OIL EXPLORATION AND DEVELOPMENT
August 3, 1995**

Thank you and good morning Mr. Chairman and members of the Committee. For the record, my name is John Shively, and I am here on behalf of Alaska Governor Tony Knowles in my capacity as the Commissioner of the Alaska Department of Natural Resources.

The Knowles Administration welcomes this opportunity to share an Alaska perspective on the issue of responsible development in the Coastal Plain of the Arctic National Wildlife Refuge (ANWR). We believe that opening ANWR for responsible oil production is vital to the well-being of Alaska and the nation.

The debate about oil and gas development in ANWR is, rightfully, a national one because the issues at stake impact the entire nation. At the same time, because Alaskans would be the most affected by development of the Refuge, we have considered this issue very carefully.

Alaskans have a long history of being responsible stewards of our environment. Whether it is managing our abundant fisheries or producing oil and gas at Prudhoe Bay, we have a record of accomplishments of which we are justifiably proud.

Alaskans genuinely care about our environment -- it comes from living in such a spectacular and special place. Alaskans also are dependent on our environment and natural resources to provide jobs and to sustain the industries that fuel our economy -- fishing, mining, forestry, tourism, and oil and gas. Alaskans have achieved a responsible and balanced approach to protecting the environment while providing for our economic needs.

That is why a vast majority of Alaskans support the opening of the coastal plain of the Arctic National Wildlife Refuge for oil and gas exploration and development. We know that oil development in ANWR can be done right and that it would generate many benefits. In short, opening ANWR would be good for the nation and good for people, and can be done in a way that minimizes adverse environmental impacts.

Good for the Nation

ANWR oil development can play a major and positive role in addressing important national and international issues. It is not a parochial Alaska issue (though we would like our views to be given careful consideration in the debate on this matter).

Energy Policy. While conservation and alternative energy sources must be pursued vigorously, petroleum, which accounts for about 40% of our national energy supply, must be a principal component of any national energy policy. Development of significant domestic resources is a logical part of such a policy. Experts agree that ANWR represents the nation's most promising unexplored petroleum province, with an excellent chance of containing one or more giant oil fields.

National Economy. According to an economic analysis prepared by Wharton Econometrics Forecasting Associates (WEFA) in May 1990, ANWR development could raise the U.S. gross national product by \$50.4 billion and increase employment nationwide by 735,000 jobs by the year 2005. The study found that every state would benefit economically in supplying the billions of dollars of equipment and services needed to develop new fields on the coastal plain of ANWR.

National Security. In December 1994, the U.S. Department of Commerce issued a report to the President which concluded that rising oil imports present a threat to U.S. national security. The report found that "... the reduction in exploration, dwindling reserves, falling production, relatively high cost of U.S. production, and the resulting low rates of return on investments all point toward a contraction of the U.S. petroleum industry and increasing imports from OPEC sources. Growing import dependence, in turn, increases U.S. vulnerability to a supply disruption."

To illustrate this trend, in 1973, the year of the Arab oil embargo, the U.S. was dependent on foreign oil for 36% of our needs. In 1991, the year of Desert Storm, the U.S. imported 46% of our oil from foreign sources. Today, the U.S. is dependent on foreign countries for more than 50% of our oil. Furthermore, the Department of Energy estimates that in 2010 we will be over 60% dependent on foreign oil. It is important to remember that the Persian Gulf war was fought, in part, to protect global oil supplies.

North Slope oil production has accounted for about 25 percent of the total daily domestic production since shortly after production began there in 1977. However, since the beginning of Prudhoe Bay field's production decline in 1988, North Slope production has declined about 24 percent from its historic high to less than 1.6 million barrels per day currently. This decline has occurred despite the addition of four new fields since 1993 and aggressive exploration elsewhere across the North Slope over the last several years. North Slope production would have declined 31% since 1988 if these new fields had not been brought on line.

Absent major new oil discoveries from ANWR, that trend is expected to continue, with production falling approximately 10 percent per year. Oil development in ANWR can help reduce this dependence on foreign oil and help bridge the gap until alternative energy sources can contribute a greater percentage of our needs.

Balance of Trade. Oil development in ANWR can help address the U.S. trade deficit by reducing U.S. dependence on foreign oil. The U.S. is the largest debtor nation in the world. According to the U.S. Department of Commerce, the largest single trade deficit commodity is crude oil and refined products totaling over a \$40 billion deficit annually.

In fact, in the latest reporting month (May 1995), the U.S. Department of Commerce reported that the trade deficit reached an all-time high. The record deficit was primarily attributable to oil and petroleum products, which accounted for over 43% of the trade imbalance.

Good for People

Development of oil and gas in ANWR would enhance the quality of life for Alaskans and all Americans and could provide a source of energy that would literally fuel the economy.

Jobs and Families. Development of ANWR could create as many as 735,000 jobs, according to the Wharton study. These jobs would benefit workers and families in every state of the union.

All 50 states have received revenues from the development of Alaska's existing North Slope oil fields. In fact, \$22.5 billion was spent for salaries, materials, design and engineering services and pre-development construction of production modules by North Slope lessees during the period 1980-1994 alone. These numbers do not include the significant pre-development investments made for development of the Prudhoe Bay field, the nation's largest oil field, prior to the start-up of the field. Nor do they include many of the pre-production expenditures related to the Kuparuk River field, the nation's second largest oil field, incurred prior to its December 1981 start-up.

It is worth noting that seventy-eight percent of the \$22.5 billion was spent outside Alaska. By way of examples: California received more than \$3.2 billion; Texas received more than \$6.8 billion; Washington received almost \$1.7 billion and Minnesota received almost \$84 million.

Government Revenues. Increased jobs and a more stable supply of oil due to development of ANWR would stimulate the economy. Increased economic activity, in turn, would increase tax revenues. Combined with lease-sale receipts from companies bidding for rights to explore and produce oil in ANWR, annual rents, production royalties, and taxes would add billions of dollars to the federal and state treasuries, thereby reducing the need for other sources of government revenue.

Minimizing the Environmental Impact

Careful development of the Refuge, under strict regulatory guidelines, can provide the nation a vital resource while minimizing the environmental impact on the coastal plain and its wildlife.

Success at Prudhoe Bay. The experience at Alaska's existing North Slope oil fields provides strong evidence that oil and gas development at nearby ANWR (approximately 70 miles to the east of Prudhoe Bay field) would pose little threat to the ecology of the coastal plain. In addition to the technological improvements made as a result of the development of Prudhoe Bay and other North Slope fields, government, industry and the public have learned much about managing oil and gas activities over the past twenty years of development experience in a way that safeguards the surrounding environment and wildlife.

Compatibility with Nature. The record reveals that notwithstanding more than two decades of oil and gas development on the North Slope, air quality remains good, drilling wastes have been well managed, and wildlife and their habitat have been minimally impacted. Most notably, the Central Arctic caribou herd, which occupies the Prudhoe Bay area throughout the year, has grown steadily from a population of 6,000 in 1978, the year after North Slope oil production began, to over 23,000 by 1994. Just as importantly, the Eskimos who reside on the North Slope and who are dependent on the resources of the region are among the strongest supporters for the development of ANWR.

The State recognizes that part of the Refuge is an important area for calving and rearing of young calves from the Porcupine Caribou herd. The State is committed to ensuring that development in ANWR is done in an ecologically responsible manner and that productivity of the Porcupine Caribou herd is maintained. Experience on the North Slope demonstrates that mitigation measures exist to minimize disturbance to this area and ensure its continued protection.

Science, Technology and Human Ingenuity. Experience and technological advancements made in North Slope oil fields mean that the amount of land needed for oil field facilities in ANWR would be vastly reduced relative to the size of all previous North Slope oil fields. This evolution in technology minimizes the "footprint" of oil activities. In fact, the Department of the Interior has estimated that less than one-tenth of 1 percent of the entire refuge, and less than 1 percent of the coastal plain, would likely be affected by oil and gas development. That means that more than 99.9% of ANWR would be unaffected by petroleum operations. For comparative purposes.

ANWR is approximately the size of South Carolina, and the area directly affected by oil and gas development in ANWR is estimated to be equivalent in size to Dulles International Airport in Washington, D.C.

Addressing Other Environmental Needs. In addition to providing needed energy, oil from ANWR could generate billions of dollars for state and federal governments to use on important social and environmental needs such as enhancing parks and refuges nationwide.

Conclusion

The State of Alaska recognized that in some ways the public policy debate about what to do with the coastal plain of ANWR is complex. At the same time, we think the issue can be framed fairly simply: can we extract a vital resource needed by people and the economy, while at the same time safeguarding the other resources in the region? The answer in the minds of most Alaskans is clearly yes.

We would hope that as others consider this question, they will evaluate the merits of the arguments and not be caught up in the inflammatory rhetoric surrounding the issue. For example, you are likely to hear how estimated oil reserves in ANWR would provide only 200 days of U.S. consumption of oil.

This is neither accurate nor representative of ANWR's real, potential contribution. No giant oil field of three to five billion, or even thirty billion barrels of recoverable oil will supply 100 percent of U.S. oil consumption for 200 days. Oil field development simply does not work that way in Alaska, or elsewhere. Rather, giant fields are distinguished by their ability to sustain their daily production for many years. For instance, during the first 10- to 15-year field production period, a single, giant ANWR discovery could contribute over 0.5 billion barrels per year to total domestic production, or nearly 50 percent of the total expected domestic oil production by the year 2005.

Another argument often advanced to refute the need for opening ANWR is that the country does not need the oil that may be in ANWR because there is a large reserve at West Sak. This argument lacks merit for at least two reasons. One, West Sak, which was discovered in 1969, is a shallow, low temperature, heavy oil reservoir that has not proven to be economically recoverable. And two, even if oil were

recoverable from West Sak, domestic demand for oil indicates that the development of ANWR and West Sak reservoirs are not mutually exclusive propositions.

It is also important to keep in mind that the time to open ANWR is now, because the window of opportunity for developing the area economically is closing fast. According to a report by the U.S. Department of Energy, the North Slope fields currently using the Trans-Alaska pipeline are expected to produce so little oil by the year 2009 that the pipeline could be abandoned.

The huge costs of either restoring an abandoned pipeline or maintaining an unused one make these two options unfeasible. Therefore, since the oil companies would need approximately 10-15 years from the time of Congressional approval to produce oil, that leaves very little time to secure Congressional authorization to open ANWR for oil development.

Finally, we think it is noteworthy that many of the same arguments being made in opposition to opening ANWR were raised at the time Prudhoe Bay development was being debated, and yet we believe most people would acknowledge that Prudhoe Bay has been, and continues to be, a success story.

Let's begin writing the next success story by opening ANWR to oil and gas exploration, and if we are lucky, for development and production.

TONY KNOWLES
GOVERNOR



STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

June 19, 1995

Dear Representative:

I understand you may be voting this year on matters related to the Arctic National Wildlife Refuge. As the recently elected Democratic Governor for the State of Alaska, I would like to share with you an Alaskan perspective on this issue. In short, I believe opening the Arctic National Wildlife Refuge for responsible oil development is vital to the economic well-being of Alaska and the nation.

I am as deeply concerned about maintaining the land Alaskans love as I am about maintaining jobs so we can live here. Alaska has always been resource dependent. We have maintained rich fisheries. We have built a timber industry while managing large tracts of land. We have protected our salmon streams. We have mined our generous oil, coal, and other minerals with greater environmental awareness than any other region on earth. We have the best cold-weather oil drilling recovery technology in the world. We have two-thirds of the United States' parkland within our borders. Despite this fact, Alaska has created the largest state park system in the country.

Alaskans understand better than anybody the importance of treating this land as our true savings account, paying dividends from generation to generation. We also do not fear harvesting or extracting the resources found within. As Native Americans have done for 10,000 years, Alaskans will harvest what we can with respect for the land.

This is the attitude Alaska brings to the Arctic National Wildlife Refuge. There is no better time than now to open the refuge to drilling and to do it right. While I am on watch as governor, I will work to strengthen the economy of Alaska, lessen the nation's dependence on foreign oil and, most importantly, maintain this land loved by 600,000 Alaskans and countless others who view our northern beauty only in their mind's eye.

I strongly urge all Americans to support environmentally responsible development within the Coastal Plain of the Arctic National Wildlife Refuge.

Sincerely,

Tony Knowles
Governor



Guest Opinion

by George N. Ahmaogak, Sr., Mayor, North Slope Borough

North Slope residents welcome oil industry

The people of the Arctic have an ageless tradition of relying on the land and sea to provide the basic necessities of our subsistence way of life. Our whalers and hunters have always made the most efficient use of limited resources, and they have always taken care of the land so their grandchildren could continue the traditions.

In the 20th century, however, our ability to practice self-reliance came under increasing pressure. Explorers, traders and settlers replaced our subsistence economy with a cash-based system and exploited the whale, fur and ivory resources of our region.

With the discovery of oil in our land in 1968 and the establishment of the North Slope Borough in 1972, we were able to enter the new economy and regain the ability to monitor and safeguard the use of our resources.

From modest beginnings, the North Slope Borough has evolved into a modern municipal government providing services never before available in the Arctic. Our school district provides vocational and academic education for young and old alike. Borough health clinics provide modern medical services to residents of even the smallest villages. The Municipal Services Department operates water, sewer and electric utilities, plows roads and runways, maintains sanitary landfills and provides bus service. Other borough departments provide police and fire protection, search and rescue services, and rental housing.

I can state unequivocally that the people of the North Slope Borough support the presence of the oil industry in our land. This support extends to exploration and development in the coastal plain of ANWR. North Slope oil has already provided immense benefits to our people and to our country. We should continue our successful policy of prudently developing our resources.

The wisdom of our elders teaches us the value of hunting where game is most plentiful. Likewise, it makes sense for our nation to seek oil in an area that even the U.S. Secretary of the Interior has identified as the country's best prospect for new petroleum deposits.

Some Americans have voiced concerns that the coastal plain of ANWR is a pristine wilderness that should be closed off forever to human activity. But this is no unpopulated, untouched wilderness. It is our homeland. We have lived here and used the land for thousands of years, and we will continue to do so.

Unlike most Americans, we do not have the option of working in a variety of industries. Well-meaning people crusading against ANWR development would deny us our only opportunity for jobs - jobs providing a comfortable standard of living for the first time in our history.

"Some Americans have voiced concerns that the coastal plain of ANWR is a pristine wilderness that should be closed off forever to human activity. But this is no unpopulated, untouched wilderness. It is our homeland. We have lived here and used the land for thousands of years, and we will continue to do so."

Our people have an ageless respect and concern for our land. With centuries of perspective, we know the oil industry someday be gone. We share a determination to protect our land and the traditional subsistence lifestyle it supports for the benefit of future generations.

We also have a clear-eyed understanding of the potential hazards of oil field operations. As a modern government, we have exercised our regulatory powers to hold the oil industry to strict environmental protection and public health standards.

The results have been an unqualified success. Our fish and wildlife resources are flourishing. For example, the Central Arctic caribou herd has grown from 3,000 in 1972 to 23,000 today. Many residents with full-time jobs use their vacations to gather subsistence food not far from their work sites.

As Native people, we have always had to fight for the right to determine our own future. Self-determination was at the heart of the land claims settlement, and it is central to the issue of ANWR development as well. We are the people whose lives will be most impacted by oil development in ANWR, and we believe our desires and the evidence of our own experience should prevail.

The past twenty years have enabled the North Slope Borough to help its residents enjoy a life which, while common to our countrymen, had long been denied to us. As Prudhoe Bay oil production declines, we fear this new life could disappear as fast as the Arctic summer, leaving residents of the North Slope once again out in the cold.

We in the North Slope Borough see oil development in the coastal plain of ANWR as our only opportunity to continue building on the achievements of the past 20 years and to keep pursuing the American dream of living and working in the land of our ancestors.

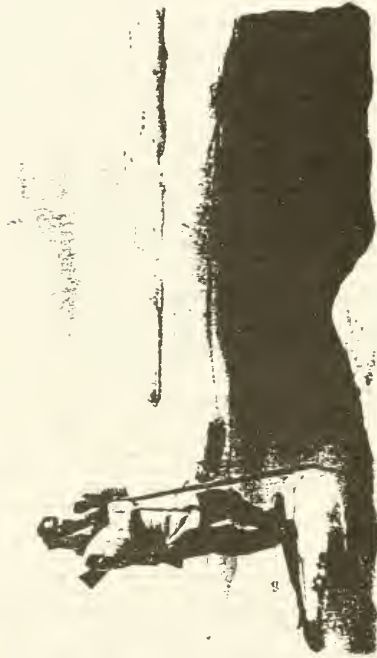
Some people want you to believe that the delicate Arctic coastline the Arctic Coastal Plain is a despoiled haven of the oil industry and Alaska's Native people. The truth is that most Native groups in Alaska favor opening the Coastal Plain to public, resolutions and letters of support calling upon Congress to enact legislation authorizing oil and gas leasing in the Coastal Plain area have been adopted by:

- the City of Kaktovik — the only community located within 75 miles of the Coastal Plain,
- the Arctic Slope Regional Corporation — whose 7,000 Inupiat Eskimo shareholders are the living residents of the area,
- the North Slope Borough — the regional government for Arctic Alaska which provides essential public services and carefully regulates developmental activities, and
- the Alaska Federation of Natives — a statewide organization which represents the interests of more than 90,000 Alaska Native people, their communities and institutions.

We think it says a lot that the people most closely tied to Alaska's land and environment support this vital measure. We think the Native people of Alaska are adding their voice to this national debate and letting Congress know where they stand on this issue.



Open the Arctic Coastal Plain for
Responsible Development



When it comes to development of the Arctic,
Alaska's Natives aren't the ones with cold feet.

For more information contact Arctic Power, 4770 H Street, Suite 201, Anchorage, Alaska 99503-1407

Alaska Federation of Natives, Inc.

ALASKA FEDERATION OF NATIVES, INC.
BOARD OF DIRECTORS

RESOLUTION 95-05

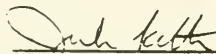
- TITLE:** A RESOLUTION REGARDING DECLINING STATE REVENUES AND NORTH SLOPE OIL PRODUCTION AND THE NEED TO OPEN THE COASTAL PLAIN AREA OF ANWR TO MEET THE CRITICAL HUMAN NEEDS OF ALASKA'S NATIVE PEOPLE
- WHEREAS;** the members of the Alaska Congressional Delegation, as representatives of the people and in their capacity as newly elected Chairmen of the Senate and House Committees having jurisdiction over matters related to Alaska Native people and the management of the energy and natural resources on public lands, have requested the Alaska Federation of Natives' Board of Directors to adopt a resolution in support of the opening of the Coastal Plain; and
- WHEREAS;** the Governor of the State of Alaska has requested the Alaska Federation of Natives' Board of Directors to adopt a resolution in support of the opening of the Coastal Plain of ANWR, with a proviso for the protection of the Porcupine Caribou Herd and the subsistence needs for the Native people of Alaska; and
- WHEREAS;** the Alaska State Legislature has adopted a resolution calling upon the U.S. Congress to adopt legislation that would open the Coastal Plain of the Arctic National Wildlife Refuge to responsible oil and gas leasing and development, with protection for the Porcupine Caribou Herd and the subsistence needs for the Native people of Alaska; and
- WHEREAS;** North Slope oil production has declined from more than two million B/D in 1990, to less than 1.6 million B/D today; and

1577 "C" Street, Suite 100 □ Anchorage, Alaska 99501 □ Ph.(907) 274-3611 FAX (907) 276-7989

Page 2
Resolution 95-05

- WHEREAS; revenues from oil production have been providing about 85 percent of the State's revenues to fund programs to meet the educational, social welfare, and other needs of Alaska's people; and
- WHEREAS; the small 1.5 million acre Coastal Plain study area of ANWR, adjacent of Prudhoe Bay and other producing fields is the nation's best prospect for major new oil and gas discoveries; and
- WHEREAS; opening the Coastal Plain area to an environmentally responsible and carefully regulated program of environmental oil and gas leasing would provide important revenue benefits to the U.S. and to the State of Alaska; and
- WHEREAS; opening the Coastal Plain will create new jobs for Alaska Native people, new contracting opportunities for Native-owned companies, and stimulate the State's local and regional economies;
- NOW THEREFORE BE IT RESOLVED that the members of the Board of Directors of the Alaska Federation of Natives calls upon the Congress of the United States to adopt legislation to open the Coastal Plain area of the Arctic National Wildlife Refuge to an environmentally responsible program of oil and gas leasing and development.

Adopted this 13th day of June, 1995.



Julie E. Kitka
President

CORPORATE SEAL:

The Anchorage Times

Publisher: BILL I. ALLEN

"Believing in Alaskans, putting Alaska first"

Editors: DENNIS FRAULEY, PAUL JENKINS, WILLIAM I. TOBIN

The Anchorage Times Commentary in this segment of the Anchorage Daily News does not represent the views of the Daily News. It is written and published under an agreement with former owners The Times, in the interest of preserving a diversity of viewpoints in the community.

The AFN joins in

IT WILL BE interesting, indeed, to see how the national environmental lobbies and the anti-oil, keep-Alaska-a-parkland crowd react to the endorsement given by the Alaska Federation of Natives to further oil and gas exploration and development on the North Slope.

No matter what kind of a spin they try to put on this, and no matter how they try to say the stand really doesn't mean anything, those opposed to opening the coastal plain of the Arctic National Wildlife Refuge still won't be able to overcome the powerful message delivered by the board of directors of the AFN.

"Opening the coastal plain will create new jobs for Alaska Native people, new contracting opportunities for Native-owned companies, and stimulate the state's local and regional economies," the AFN resolution said.

Not only that, it said what many other Alaskans already have said:

"Opening the coastal plain area to an environmentally responsible and carefully regulated program of environmental oil and gas leasing would provide important revenue benefits to the U.S. and to the state of Alaska."

The resolution also took note of something the national anti-bunch never mentions: Responsible petroleum activity can be conducted with full regard for the "protection for the Porcupine caribou herd and the subsistence needs for the Native people of Alaska."

The environmental professionals — who live and work in such hardship areas as San Francisco and Washington, D.C. — don't have a smidgen of understanding of what it is like to live and work in Arctic Alaska.

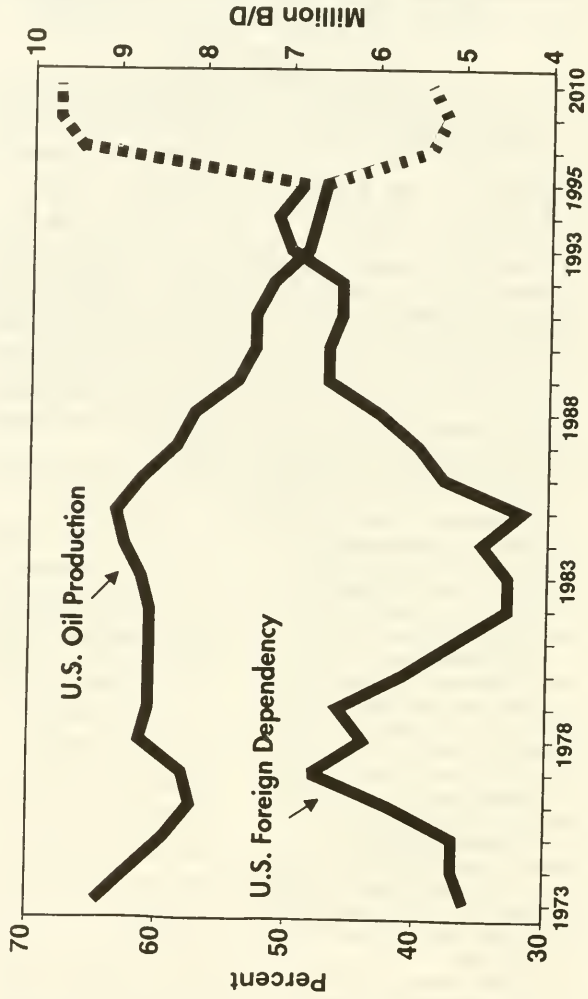
You'd think they would defer to the expertise represented by the men and women who are leaders of the AFN, speaking for 12 regional Native corporations and 12 non-profit Native associations.

But they won't. When it comes to ANWR — or, to use its new description, the Arctic Oil Reserve — those who oppose Alaska's ability to manage its own resource developments can be counted on to ignore the message delivered by the AFN. It doesn't fit their agenda.

It is a message, however, that Alaskans now can use — with great confidence and hope — to help win approval in Congress for the opening, at last, of this slender strip of North Slope land that is America's best opportunity for a major new domestic oil discovery.

"Opening the coastal plain area to an environmentally responsible and carefully regulated program of environmental oil and gas leasing would provide important revenue benefits to the U.S. and to the state of Alaska."

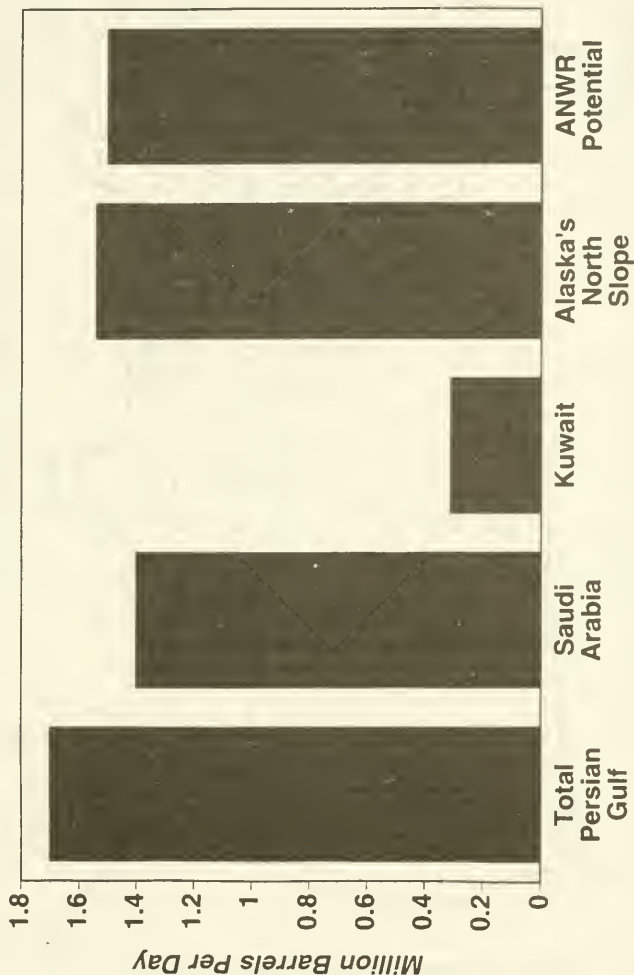
U.S. Oil Production & Foreign Dependence*



Source: U.S. Department of Energy

* Gross imports as a percent of domestic consumption

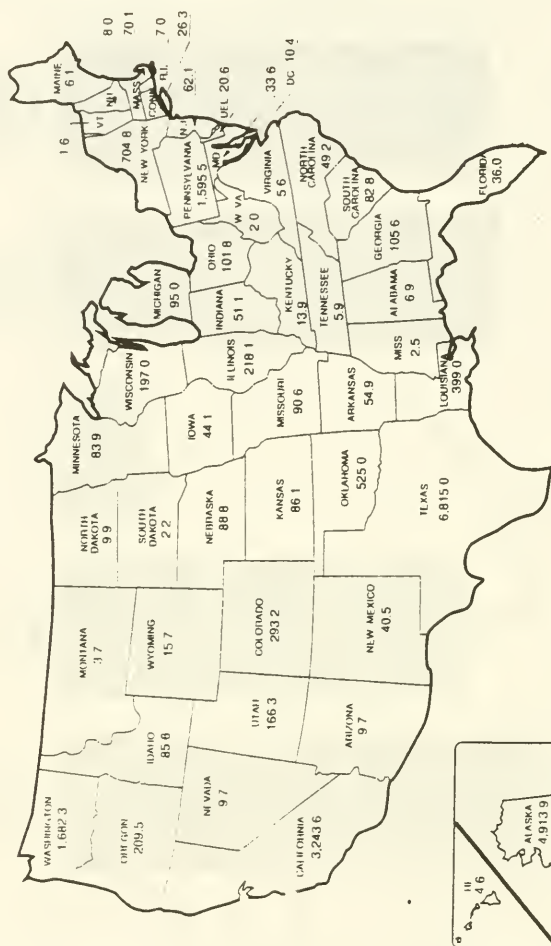
U.S. Middle East Imports/Alaska Comparison 1994



Alaska Comparison

Dollars Spent in Each State for North Slope Oil Development

Total \$37.5 Billion (1980-1993)

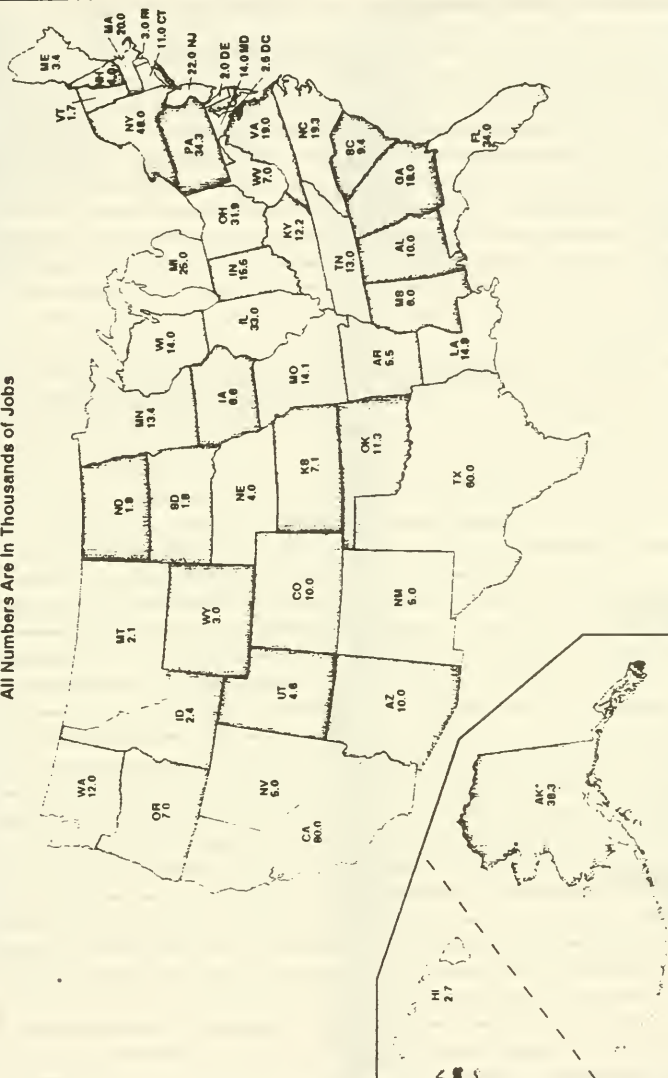


These dollars include \$10.5 billion during the period 1980-1986 for BP Exploration (UK) and Conoco and \$10.9 billion spent by BP Exploration and ARCO from 1987 and 1993.

These EXCLUDE all taxes and royalties for lease purchases and payments that could not be allocated to a single state. They also exclude all pre-1980 oil development expenditures.

735,000 Potential New Jobs if ANWR is Opened to Oil & Gas Leasing

All Numbers Are In Thousands of Jobs



Potential jobs created by ANWR activity as forecasted by
Wharton Econometrics Forecasting Associates (WEFA)

*Alaska at 1/2 Scale

Potential Employment Created by ANWR Development*

State	2005
Alaska	12795
Alabama	10392
Arkansas	5464
Arizona	10447
California	79793
Colorado	10577
Connecticut	10989
Delaware	2032
D.C.	2516
Florida	33878
Georgia	18374
Hawaii	2702
Idaho	2369
Iowa	6662
Illinois	33375
Indiana	15622
Kansas	7183
Kentucky	12247
Louisiana	14846
Massachusetts	20260
Maryland	13912
Maine	3450
Michigan	25014
Minnesota	13489
Missouri	14138
Mississippi	5918
Montana	2126
North Carolina	19389
Nebraska	4006
New Hampshire	3898
New Jersey	22046
New Mexico	4669
Nevada	4725
New York	47624
Ohio	31842
Oklahoma	11268
Oregon	6885
Pennsylvania	34279
Rhode Island	2919
South Carolina	9421
South Dakota	1771
Tennessee	13394

*Estimates are based on peak ANWR production in the year 2005.

**Alaska is expected to reach its peak of 38,265 new jobs in the year 2000.

Texas	60168
Utah	4580
Virginia	19269
Vermont	1740
Washington	12157
Wisconsin	13814
West Virginia	7043
Wyoming	2958
TOTAL	732223

Source: "The Economic Impact of ANWR Development," prepared by
The WEFA Group, May 1990.

EXECUTIVE SUMMARY

At the request of the American Petroleum Institute (API), The WEFA Group has prepared this report on the economic effects of the development of the Arctic National Wildlife Refuge (ANWR) for oil and natural gas production. The study analyzes the future of U.S. oil and gas exploration and production and the specific impact that the development of the ANWR region would have; the report also examines the U.S. macroeconomic effects of ANWR development.

Background

Since 1973, petroleum markets have been whipsawed by a series of unforeseen events that have caused economic instability. The current state of the industry reflects the aftermath of this destabilizing cycle. Exploration for oil and natural gas in the U.S., in terms of exploratory wells drilled, more than doubled between 1973 and 1981, but low real oil and natural gas prices since 1986 have led to a collapse in investment in productive capacity.

Seismic exploration and rig activity in the U.S. have fallen to post-war lows. Moreover, replacing the oil consumed is more difficult now than it was in 1973, with the result that U.S. oil production continues to decline steadily, having already fallen by 1.3 million bbl/day since its recent peak in early 1986.

Low real oil and natural gas prices along with continuing growth in economic activity are also stimulating increased demand. U.S. petroleum product consumption has increased by 2 million bbl/day since 1983 and is nearing the high levels of the late 1970s. As a result of growth in consumption and declining production, U.S. import reliance has expanded rapidly in recent years, and petroleum imports are a major contributor to the U.S. trade deficit.

Over the 20-year forecast period examined in the study several key trends are expected to emerge. OPEC is assumed to regain dominance over the oil market during the early 1990s. Real oil prices will rise gradually during the course of the decade to \$30/bbl in 2000. Real oil prices are assumed to continue rising at a slower rate beyond 2000, reaching \$35/bbl by 2010. The increase in real prices causes oil demand growth to slow to only .7%/yr from 1990-2000. Non-OPEC oil supplies decline gradually from 29 MMBD to 26 MMBD during this period, leading to an increase in OPEC output of nearly 7 MMBD.

In the U.S., with coal, nuclear and hydro contributing at most 3-6 quadrillion btu of incremental supply, petroleum and natural gas will be called on to supply an increment of 6-10 quadrillion btu, or the equivalent

of 3.5-5.5 million bbl/day. It is clear that current trends in domestic exploration and development activity will not support current levels of output, let alone increases of this magnitude. As a result, the increasing gap between domestic supply and demand must be filled by higher imports, or it must be closed by substantially higher real prices. U.S. net oil imports are thus expected to rise to 8.5 MMB/D in 2000 and 11 MMB/D in 2010.

Scope and Approach

The approximately 1.5 million-acre coastal plain portion of the ANWR facing the Beaufort Sea has been identified as highly prospective for the significant accumulation of oil and gas. To determine the impact of ANWR development, we simulated the WEFA econometric models of the world oil market and the U.S. economy for the period 1989 to 2010, under various scenarios for the development of ANWR resources, and we compared these simulation results with corresponding reference case simulations in which ANWR development does not occur. We examined two ANWR development scenarios, corresponding to discoveries totaling 3.23 billion barrels in the "low case" and 9.25 billion barrels in the "high case". The high case is described in some detail within this report. All simulations are described in an appendix to the report. If exploration and development of ANWR is successful, production is expected to begin during the late 1990s at the earliest. This is at a time when oil markets are projected to be tight.

Measures of the impact of ANWR development on world oil prices, the U.S. macroeconomy (including GNP, employment, and the trade deficit), and geographical regions of the U.S. are reported. In addition, a number of alternate scenarios were run to test the sensitivity of these measures to the market environment within which such development would occur. These alternate cases included variation in the level of world oil prices and the occurrence of an oil supply disruption. These alternative cases are also described in an appendix to the report.

Major Economic Effects

The principal macroeconomic effects of ANWR development arise from the direct and indirect effects of such development in expanding the nation's productive potential by tapping a currently unused (and unknown) resource. Even if resources are fully employed without such development, so that the development requires the shifting of resources from other sectors to investment in ANWR, there will still be a net economic gain from the increased productivity of those resources, since the nation's endowment of productive resources will have increased. To the extent that there is less than full employment of the resources required to develop ANWR, there will be further gains from such development.

In addition, there are several other indirect effects of such development. Increased domestic oil supplies reduce U.S. import requirements, thus leading to lower world oil prices. Lower resource prices increase the overall productivity of the economy and reduce the outflow of capital to oil exporting countries. The development of ANWR is estimated to raise U.S. GNP by more than 50.4 billion dollars (1988 \$) by the year 2005. Domestic price levels are estimated to be 0.3% lower by the year 2010 as a result of ANWR development. At its peak, the development of ANWR would raise U.S. employment by 735 thousand persons.

The principal economic impacts of ANWR development estimated in the WEFA report are summarized in Table 1.

Table 1

Major U.S. Macroeconomic Effects of ANWR Development
Middle Price, High Resource Case

	1995	2000	2005	2010
Gross National Product (billions 88 \$)				
(difference from base case)	4.7	36.1	50.4	22.4
Prices				
(% change in GNP Deflator from base case)	0.0	0.0	-0.1	-0.3
Employment (thousands of persons)	56	410	735	372
By Sector: Manufacture	21	90	128	45
Mining	1	50	84	55
Trade	11	122	225	78
Services	6	64	145	90
Construction	15	67	135	107
FIRE	1	14	19	7
Industrial Production				
(% change from base case)	0.1	0.7	0.8	0.2
By Sector: Mining	0.3	4.3	5.8	2.9
Manufacturing	0.1	0.5	0.5	0.1

Value of ANWR in Reducing Supply Disruption Costs

In addition to the direct economic impacts of ANWR development described above, the expansion of domestic oil supply also reduces the prospective cost of any potential disruption in international oil supplies. In order to assess the significance of this effect, each of the above cases was varied to include the occurrence of a hypothetical temporary disruption in world oil supplies. In each case, 3 mmbd of Persian Gulf crude supply is lost for a period of 4 months, beginning in the fourth quarter of 2001.

In the middle price case, without ANWR, the effect of such a disruption would be to raise U.S. prices by 0.6% in the year 2002, reducing U.S. GNP by nearly 34 billion 1988 dollars (0.5%), at a loss of 350 thousand jobs. With ANWR development, the price increase attributable to the disruption is reduced by as much as 10% in the high resource case. Similarly, ANWR reduces the loss in GNP by nearly 18% in the high resource case. Finally, ANWR reduces the job loss attributable to such a disruption by as much as 17% in the high resource case.

Table 2 presents the effect of ANWR development on the losses attributable to such a supply disruption.

Table 2

Effect of ANWR Development on Losses from Supply Disruption

Middle Price Case

(difference between undisrupted and disrupted cases

in the year of disruption)

	No ANWR	High Resource
Gross National Product (billions of 1988 \$)	-33.6	-27.6
Prices (% change)	+0.62	+0.56
Employment (thousands of persons)	-350	-290



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BRUCE F. VENTO

U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, D.C. 20515-2501

Congress of the United States
House of Representatives
Washington, DC 20515-2501

ALASKAN OIL PRODUCTION ON THE RISE-
NO NEED TO DEVELOP THE ARCTIC REFUGE!!

April 6, 1995

Dear Colleague:

Last week, the State of Alaska's own oil economists released a very bullish report on the future of oil production on the North Slope. Without any development of the Arctic National Wildlife Refuge, Massachusetts-based Cambridge Energy Research Associates said that Alaska's oil production decline could be offset by production at fields now deemed marginal. Alaska would be able to produce more oil ten years from now than it does today, with development of existing fields on the North Slope. Furthermore, Alaska Federal and State native lands have vast stretches of areas that are eligible or oversight of those areas open to de for oil. Diligence and order.

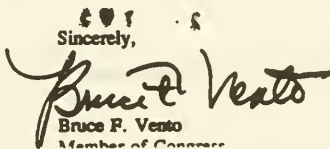
Ironically, the announcement of the favorable oil forecast coincided with an announcement by Alaska Governor Tony Knowles that he plans to spend \$650,000 on a renewed push to get federal approval for oil exploration and development in the Arctic National Wildlife Refuge.

By any objective standard, Alaska, with no state income tax and with an annual dividend check of nearly \$1000 for every man and woman, is in pretty good shape economically compared to most other states. The state has already received over \$40 billion in oil royalties over the last twenty years, and according to this new oil forecast, is likely to receive many billions more. This robust forecast casts serious doubt on the gloom and doom argument about declining production and the impending bankruptcy of Alaska unless the Arctic National Wildlife Refuge is opened to oil and gas development.

The Coastal Plain of the Arctic National Wildlife Refuge belongs to each of us as citizens of the United States. There will never be another place like the Arctic Refuge in our national lands. It is unique and if developed, is gone forever. Optimistic forecasts predict that if oil is discovered within the Arctic National Wildlife Area, such discovery and development would provide about a 200 day U.S. consumption of oil. Two-hundred days for the nation's oil appetite, but permanent destruction—despoiling and modifying the caribou calving grounds, the home of 160,000 porcupine caribou herd—for our North American Serengeti. Our last pristine wilderness and an industrial complex, cannot co-exist.

According to the State's own oil economists, there are other places to drill for oil on the North Slope. But there is no other Arctic National Wildlife Refuge. Please support, HR 1000, to preserve this areas as wilderness. Neither America nor Alaska is rich enough to lose this precious wilderness— or poor enough to need to.

Sincerely,



Bruce F. Vento
Member of Congress

Cambridge Energy Research Associates INC.

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Telephone: (617) 497-6446
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Fax: (617) 497-0423

Ann-Louise Hittle
Director, World Oil

May 25, 1995

Representative Bruce Vento
2304 Rayburn HOB
Washington, DC 20515

Dear Representative Vento:

I am responding to your "Dear Colleague" letter of April 6, 1995 entitled *Alaskan Oil Production On The Rise—No Need To Develop The Arctic Refuge!* We wish to call your attention to the fact that the letter appears to be based on reports that completely misstate and misinterpret the analysis we presented to the Alaska State Legislature and, specifically, the conclusion. Our report is not "bullish" on the future of North Slope oil production. Indeed, we see a sharp decline in the existing fields.

As the authors of that analysis, Cambridge Energy Research Associates (CERA) is very concerned that the report's contents not be misinterpreted or misstated. We want to be sure to convey to you the conclusion of our report and why it is at variance with the views mistakenly attributed in your letter.

You stated that "Alaska's oil production decline could be offset without any development of the Arctic National Wildlife Refuge by production at fields now deemed marginal" and that "Alaska would be able to produce more oil ten years from now than it does today, with the development of existing fields on the North Slope". This view is wrongly attributed to us. We cannot be the source of such a view. There is no basis in our report for the statement in your letter.

The only way that Alaskan production ten years from now can return to current levels of capacity is through the development of all existing fields that presently do not have a development program and, in addition, through the discovery of new fields. The timing and completion of any new fields is uncertain. Any new production would only take place if these projects can compete economically with other possible investments outside of Alaska. The development of existing fields alone, without any new discoveries, would result in overall capacity of 1.42 million barrels daily (mbd) which is 250,000 barrel daily *below* current capacity of 1.67 mbd.

Perhaps a source of confusion in your letter is the assumption that CERA has forecast North Slope oil *production*. That is incorrect. Our report provides a forecast of North Slope liquid (includes crude, condensate, and NGLs) *productive capacity*. The distinction is critical to interpreting the forecast curves that were included in the report.

Productive capacity, as used in our report, represents our estimates of the combined *maximum* volume of hydrocarbon liquids that *could* (not will or would) be produced, over time, from:

- 1) all currently producing fields, plus
- 2) discovered fields under development, plus
- 3) discovered and delineated fields which are currently uneconomic to develop, plus
- 4) fields *which have not yet, but may be discovered in the future*.

It should be obvious that the first two categories have a relatively high degree of predictability compared to the latter two.

The likelihood of actual *production* levels matching forecast levels over any extended period is dependent on many factors. These include oil or gas price, development (capital), operating and transportation costs and other factors, including reservoir performance and mechanical and loading problems—all of which may depart significantly from predicted levels. Thus, even for production forecasts, analysts generally describe their predictions in terms of the probability of their actually occurring as forecast. For discovered fields that have never been produced, and particularly for “undiscovered” fields, any forecast of *production* would be meaningless. That is why we speak in terms of *productive capacity* for these categories of fields.

The concept of ‘productive capacity’ depends upon a number of analytic assumptions. It assumes that a certain number of fields of a given size will be discovered on an estimated schedule, that their production profiles will reflect pre-development predictions, that existing fields will be produced concurrently as forecast, and that all discovered but currently uneconomic fields will be brought into production at designated times, and will thereafter produce as forecast. If *all* of these events occurred, the result would be the forecast *productive capacity*.

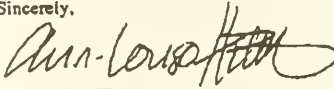
Please observe the striking difference between your letter’s statements about North Slope production and our analysis. Our report’s forecast of capacity from Prudhoe Bay field and from other fields currently producing or under development on the North Slope correlates very closely with the forecasts of others, including the State of Alaska. We predict that Prudhoe Bay’s production will decline by 73 percent between 1990 and 2005—from a rate of approximately 1.43 mbd to a rate of 393,000 barrels daily.

In the same period, we forecast total production from *all* other currently producing fields, as well as from those fields currently under development, to have declined by 31 percent from a rate of 484,000 bd to a rate of 319,000 barrels daily after a mid-1990s peak of 595,000 bd. For the year 2010, we forecast the combined production stream to have declined by 79 percent from its high of just over 2.0 million barrels per day in 1988 to 431,000 bd.

The recognition in our report of the many discovered, but undeveloped oil and gas *reserves*, as well as the potential *resources* yet to be discovered on the North Slope, is also consistent with previous forecasts of the state. The capacity we forecast, other than that of currently producing fields and those under development, consists primarily of the same fields which state officials identified in Congressional hearings on North Slope oil potential and development held during the summer of 1987.

CERA is an independent organization providing objective analysis and research and we do not take policy positions on this or other issues. We hope you find this letter useful and helpful in clarifying the record so as not to attribute views to us that are at variance with our actual research. And we further hope that you will find the opportunity to correct the record on this matter.

Sincerely,



Ann-Louise Hittle
Director, World Oil

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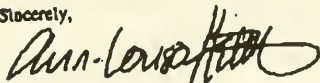
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Cambridge Energy Research Associates

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Sincerely,



Ann-Louise Hittle
Director, World Oil

ANWR UPDATE

April 1995



Economics and National Energy Security

Domestic oil production in the U.S. is decreasing rapidly and will continue to decline by million of barrels per day over the next few years. At the same time, national demand for oil has steadily increased to the highest levels since the 1970's. Foreign oil imports create a dependence on potentially unstable sources and put the U.S. in a state of import vulnerability. Our national security and economic stability depend on sufficient availability of domestic oil supplies. Development of oil and gas reserves in the 1002 Area is critical to a steady supply of domestic crude oil.

Domestic production in the U.S. is declining rapidly.

- Domestic oil production is down to 6.6 million barrels a day in 1994 — the lowest annual level since 1954.
- Domestic crude output fell 1.5 million barrels per day in 1994 compared with 1980 levels; during the same time, domestic consumption increased by 3.4%.
- The number of production rigs in the U.S. fell from 4,409 in 1985 to 2,320 in 1990, a drop of 47%.
- The number of rotary rigs in the U.S. fell from 1,969 in 1985 to 719 in 1992.
- Decline cannot be offset solely by increased conservation and alternate energy sources.
- North Slope production (25% of U.S. total) is expected to decline annually at a rate of 10%, from an average of 1.8 million barrels per day in 1991.
- Of the original 12 billion barrels of recoverable oil at Prudhoe Bay, only 4.5 billion remain today.

U.S. demand for oil is continuing to increase rapidly.

- National demand for oil has steadily increased to more than 17.7 million barrels per day, the highest level since the mid-1970's.
- Even with increased conservation, U.S. energy demand could increase 19% in the next 10 years.
- Oil and gas account for 65% of U.S. energy use.
- Oil will still provide 38% of U.S. energy demand by the year 2030.
- The transportation sector of the U.S. economy uses 63% of the petroleum and is 98% dependent on oil.
- National security and economic stability depend on sufficient availability of domestic oil supplies.

Dependence on foreign imports is increasing rapidly.

- During 1973 Arab oil embargo, the U.S. imported 35% of its oil.
- By 1994, the U.S. imported 50.4% of its oil.
- In 1990, imports cost the nation \$64.6 billion and accounted for 60% of the U.S. trade deficit, creating dangerous dependence on potentially unstable sources.
- Energy imports increased by more than \$10 billion between 1989 and 1990 and are continuing to rise.
- U.S. Department of Energy has stated that by the 2000, the U.S. could be importing close to 70% of its oil.
- Unless oil prices increase appreciably, U.S. exploration will remain stagnant, foreign imports will continue to rise, and U.S. vulnerability to oil price shocks and possible shortages or stoppages could have large economic impacts.

There is no conflict between lifting the Alaska North Slope export ban and development of the 1002 Area.

- The 22-year-old ban is the only law today that requires that a resource be sold only in the other 49 states.
- Allowing the export of North Slope crude will decrease transportation costs (Gulf Coast vs. West Coast).
- By the time ANWR is developed, Prudhoe Bay production will be at 400,000 barrels per day.
- Even if oil drilling in ANWR brings TAPS back to up capacity of 2.1 million barrels per day, by the time the field is developed (2005), the growth on the West Coast will justify development.
- Lifting the ban now will reduce the cost of importing oil (more than 50% of U.S. trade deficit).
- Allowing ANWR development to begin will reduce the cost of imported oil in the next 10 years. Even if all the oil isn't needed at that time, the surplus could be sold to foreign markets to further reduce the balance-of-trade deficit.

ANWR UPDATE

April 1994



ANWR

Economic Benefits from ANWR Development

Development of oil and gas reserves in the 1002 Area would provide countless economic benefits — including jobs — across the United States. Increased energy efficiency, on the contrary, would not create jobs. The Department of Interior estimates a 1-in-2 chance of finding 9.2 billion barrels of oil in the 1002 Area. Development is a sound investment in America's economic future.

Current North Slope production shows benefits of developing arctic oil reserves.

- Since 1979, North Slope production (over 8 billion barrels) has saved the U.S. approximately \$192 billion in oil import costs alone.
- Every state has experienced economic benefits of oil production from Alaska's North Slope (see map).
- Development of North Slope oil fields has contributed more than \$300 billion to the U.S. economy.

With continued investment, Alaska can still supply 25% of U.S. domestic oil.

- Owners will spend \$1.1 billion this year to increase production from existing wells at Prudhoe Bay.
- \$15 billion could be spent on North Slope development projects on existing leases in the next 10 years.

Oil imports reached 8.9 million barrels per day in 1994, accounting for the first time for more than half of U.S. petroleum use.

- Imports reached 50.4%, climbing 3.5% from 1993 to 1994.
- U.S. production continued its decline — fell to a 40-year low in 1994.
- Overall U.S. crude oil production fell to 6.6 million barrels per day, lowest since 1954.
- Previous record for import was 109,000 barrels/day, set in 1977.

ANWR holds the greatest potential economic and energy security benefits in the U.S.

- Oil not produced in ANWR will be imported from other sources.
- Government estimates show that at least 250,000 jobs would be created as a result of 1002 Area development. Private sector studies place the total at 735,000 jobs.
- The United States has no other comparable options for domestic production.
- U.S. GNP would increase by \$50.4 billion.
- U.S. could save \$14 billion per year in imports with ANWR's predicted one million barrels a day.
- Production could reach nearly 2 million bbl/day by 2015, nearly one-third of domestic production then.
- ANWR *itself* would be among the top 8 oil production nations in the world.
- The U.S. deficit would be reduced with oil lease bonuses, rentals, royalties, and excise/income taxes.

The U.S. Department of Interior, using the best available geologic data, is very optimistic about production from the 1002 Area.

- There is a 1-in-2 chance (46%) that the 1002 Area of ANWR holds 9.2 billion barrels of oil, according to the Department of Interior (April 1993).
- The 1002 Area could produce one million barrels of oil/day for at least 25 years — equivalent to 12% of the current daily U.S. production, and enough to provide all gasoline used by 14% of Americans' automobiles.
- ANWR may hold as much as 12 billion barrels of recoverable oil.
- U.S. Department of the Interior has stated that net national economic benefits from ANWR development could reach \$325 billion.

Allowing exploration to begin now in ANWR is critical economically.

- Production of ANWR oil would ensure efficient use of the Trans-Alaska Pipeline and North Slope facilities.
- U.S. Department of Interior estimates that TAPS will be considered uneconomical by the year 2015, and the law states that it will be removed.
- Without ANWR, 1 billion barrels of oil will be left in Prudhoe Bay and in marginal and offshore fields.
- Future jobs are dependent on new discoveries in developed areas where facilities are in place.

ANWR UPDATE

April 1995



ANWR

Caribou Populations and Calving Areas

Over two decades of development on the North Slope have shown that caribou can co-exist with development. The Central Arctic Herd, which calves in the Prudhoe Bay and Kuparuk oil fields, has increased from 3,000 animals to more than 23,500 animals. Facilities in the 1002 Area would be designed to protect this important species.

Caribou populations in Alaska and throughout North America are flourishing.

- More than 3.5 million caribou are found in North America in 130 herds, as compared to 1.1 million caribou found in herds in Iceland, Greenland, Scandinavia and Russia.
- Caribou populations are generally increasing across North America.
- 900,000 caribou in 33 herds are found in Alaska.
- Four herds are found on Alaska's North Slope: Porcupine Caribou Herd (PCH), Central Arctic Herd (CAH), Western Arctic Herd (WAH) and Teshekpuk Herd.
 - Porcupine Caribou Herd decreased to 160,000 after an peak in 1989 of 180,000 (ANWR/Canada).
 - Central Arctic Herd increased from 3,000 to 23,500 (Prudhoe/Kuparuk).
 - Western Arctic Herd increasing, now totals 416,000 (NPRA).
 - Teshekpuk herd increasing, now totals 16,700 (NPRA).
- Considerable mixing occurs among herds.

Oil development has not adversely affected caribou.

- Oil field activities have not adversely impacted the population size of any fish or wildlife species using the North Slope, including caribou.
- No discernible effect on regional distribution, migration patterns, calving success, herd size, productivity, or other biologically important characteristics of caribou has been established.
- Oil field layout and structures on the North Slope are designed to facilitate wildlife movements such as caribou migration.
- Oil field structures have not caused large scale blockage of caribou movement, regional displacement or major caribou activities, or a significant reduction in available habitat.

Central Arctic Herd caribou are healthy and increasing in the Prudhoe Bay region.

- Pregnant cows and cow/calf pairs move into area in early June.
- Both sexes use the coastal regions for relief from heat and mosquitoes.
- Caribou spend most of the nine-month winter near the Brooks Range.
- Herd size has increased from 3,000 animals in early 1970's to an estimated 23,500 animals during two decades of development.

Importance of traditional calving areas has been exaggerated.

- Large numbers of cows have been in the Jago uplands in 5 of the last 9 years, and only once did the more than half of cows calve in the area.
- CAH caribou continue to use the traditional calving area now within the Kuparuk oil field, showing only local avoidance of active roads and pads.
- Choice of calving area depends on snow melt and early growth of forage plants and data show considerable variation in location from year to year.
- In 13 of the last 19 years, less than one-fifth of the herd has calved in the "core" calving area.
- The majority of the PCH calved in the "core" calving area only once in the last 19 years.
- 68% of the time, less than 25% of the herd calved in the "core" area.
- The majority of the PCH calved in the 1002 Area only twice in 8 years.
- 50% of the time, less than 25% of the herd calved in the 1002 Area.

ANWR UPDATE

April 1992



ANWR

Grizzly Bears, Wolves, Muskoxen and Birds

Wildlife other than caribou — such as bears and wolves — use the 1002 Area infrequently and would be unaffected by development. Populations of these animals — and others that live in the Refuge such as muskoxen — are healthy and increasing despite three decades of development at Prudhoe Bay. Oil and gas development in the 1002 Area would be temporary, and the long-term ability of the habitat to support wildlife would not be affected.

Grizzly bears use the North Slope oil fields today.

- Cooperative studies with federal and state agencies monitor bear sightings and den locations to reduce the likelihood of interactions between humans and bears.
- The grizzly bear population has increased to about 26 in the Prudhoe Bay oil field, and industry funded both monitoring and aversion programs by the Alaska Department of Fish and Game
- No grizzly bears have ever been killed in the North Slope oil fields in the course of routine operations
- In over 20 years of operation, only 13 grizzly bears have been killed along the Trans-Alaska Pipeline (compared with 25 black bears in the Anchorage area and 65 in the Juneau area during the same time).

Wolves continue to thrive in the Arctic.

- Wolves were abundant on the North Slope in the 1940's to 1960's.
- Historic reductions in the wolf populations have been attributed to government-approved aerial hunting and a bounty system specifically aimed at reducing wolf numbers — these programs continued into the early 1970's.
- According to the Alaska Department of Fish and Game, the wolf population is healthy and increasing
- Wolves are more abundant in the foothills and mountainous areas of the Brooks Range and *least* abundant on the coastal plain.

Muskoxen use the refuge but would be unaffected by development in ANWR.

- During the last survey in 1989, there were 359 muskoxen in ANWR, compared to 476 after calving in 1985.
- There are more muskoxen outside the refuge: Of the approximately 1,800 muskoxen in Alaska, 300 to 400 are on the Seward Peninsula, 200 at Cape Thompson, 500 on Nunivak Island, and 200 on Nelson Island
- Hunting is carefully controlled by permits. In ANWR, only 5 bull harvests are permitted each year. Between 1983 and 1986, only 16 animals were taken.

Millions of migratory birds would still nest and breed without adverse impact.

- Nesting populations of Brant on Howe Island have increased from 33 pairs in 1984 to 100 pairs in 1986 to over 200 pairs in 1990.
- Nesting populations of Snow Geese on Howe Island increased from 50 nests in 1980 to 455 nests in 1993
- Species diversity and numbers of birds are the same in developed areas and in similar, undisturbed areas of the coastal plain.
- Some birds nest in higher densities along abandoned peat roads than in undisturbed parts of the oil fields
- Both caribou and birds often use abandoned gravel pads rather than adjacent undisturbed tundra
- Recent surveys have shown an increase in the local population of Spectacled Eiders.



Marine Mammals

Development of the 1002 Area of ANWR's Arctic Coastal Plain will have little or no impact on marine mammal populations. All marine mammals are protected under the Marine Mammal Protection Act of 1972, which prohibits the unauthorized "take" of any marine mammal. Marine mammals are also protected under a variety of local, state, national, and international treaties and agreements. Populations of polar bears, bowhead whales, belukha whales, walrus and seals are healthy and increasing.

Polar bears and their denning habitat are fully protected.

- There are approximately 5,000 bears in the Beaufort Sea population.
- The population appears stable, despite a significant subsistence take.
- U.S. Fish and Wildlife Service has confirmed only four polar bear dens in the 1002 Area since 1989.
- U.S. Fish and Wildlife Service has testified that effective methods exist to ensure that no significant adverse effects occur on ANWR wildlife, including polar bears.
- Every exploration and development site is managed to minimize the likelihood of human/bear encounters.
- No polar bears have been killed in the Alaskan Arctic in the course of routine oil field activities.
- Only one bear has been killed during exploratory work (in that instance the lethal take was necessary to protect human life).
- Site personnel are trained to deal with human/bear encounters.

Bowhead whales and belukha whales would not be impacted by onshore or nearshore development of the 1002 Area.

- The western arctic stock of bowhead whales is estimated at 8,000 animals and increasing.
- Whales typically stay in water depths of more than 20-30 meters.
- Whales in the Alaskan Beaufort Sea are migrating through the region. They summer in the Canadian Beaufort and winter in the Bering Sea.
- The Bering/Chukchi/Beaufort population of belukha whales is estimated at 25,000 animals.
- An estimated 11,500 whales migrate from the Bering Sea to the eastern Beaufort Sea. The whales migrate through the Alaskan Beaufort in April/May and September or October.

Pacific walrus would be unaffected by development of the 1002 Area.

- Walrus are infrequent visitors to the Alaskan Beaufort Sea. They only rarely range east of Point Barrow.
- The village of Kaktovik takes, on average, three walrus per year.

Ringed, bearded and spotted seals would be unaffected by development in ANWR.

- Seals found in the Alaskan Beaufort Sea are ice-associated.
- Population numbers are estimated at: 250,000 spotted seals; 300,000 bearded seals; and 1.5 million ringed seals.
- These three species are not endangered and would not be impacted by coastal or nearshore developments.

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Air Quality on the North Slope

Air quality on Alaska's North Slope meets or exceeds state and federal regulatory requirements. Natural gas, one of the cleanest-burning fuels available, is used in the turbines at oil production and electrical generation facilities. Major emissions are nitrogen oxides and carbon monoxide, and data show that concentrations of these emissions are well below levels allowed by the National Ambient Air Quality Standards.

Air quality on the North Slope is excellent.

- North Slope ambient air quality is consistently better than required by national EPA standards, and substantially better than air quality in large cities including Lake Tahoe, Chicago, and Washington D.C., and in many remote areas
- Most emissions from North Slope operations come from large natural-gas turbines that power production facilities.
- North Slope natural gas is very low in sulfur and is one of the cleanest fuels available.

Emissions are well under federal and state environmental limits.

- North Slope air quality has consistently met all federal and state standards.
- Nitrogen oxide emission levels in the Western Operating Area of Prudhoe Bay are only one third of the limit stipulated in air quality permits (22,400 tons/year).
- The annual average nitrogen-dioxide concentration for 1994 was 7.7 micrograms per cubic meter, compared to 55 in Washington, D.C., 90 in New York, and 105 in Los Angeles.
- The annual ambient nitrogen dioxide concentration for Prudhoe Bay is less than 8% of the national ambient air quality standard.
- The cold, dry climate of the Arctic protects lichens from sulfur dioxide and nitrogen oxide, which require a moist, warm climate for significant reaction with vegetation. The tundra is thus essentially immune from damage most of the year.
- Sulfur dioxide levels are typically below detection.
- Global exploration and production of petroleum is responsible for only 2.5% of total carbon dioxide emissions.

Occasional black smoke emissions are necessary for safety and are not harmful to the environment.

- Black smoke emissions result from natural gas flares, an essential safety system designed to handle sudden pressure increases in oil and gas facilities.
- Black smoke events are short, infrequent (once a month), and well under allowable limits.
- Material in black smoke is unburned carbon particles or soot.
- Small volumes released have no adverse environmental impact.

North Slope development activities have not contributed to "arctic haze".

- Natural sources of arctic haze include dust from Asian and African deserts, airborne sea salt, and particles from volcanic eruptions.
- Man-made sources include emissions from fossil fuel combustion, smelting and other industrial processes.
- Chemical fingerprinting and trajectory analysis have shown that the majority of these man-made emissions originate in Europe and Asia.
- NOAA reported in 1987 that Prudhoe Bay emissions do not match the fingerprint of arctic haze.
- Emissions from Prudhoe Bay would have to be transported long distances before they could be lifted to the 40,000-foot altitude where arctic haze is found.



Reducing the "Footprint" of Arctic Energy Development

Many new technologies and operational practices have dramatically reduced the impact of exploratory, drilling and development in the Arctic. All oil field infrastructure — from wells to pipelines to production centers and support facilities — is developed with the goal of minimizing environmental impact. Three decades of success on the North Slope prove that the ANWR 1002 Area would be developed responsibly and with minimal impact.

North Slope facilities cover minimal surface area.

- Current North Slope facilities cover only 0.05% of the Arctic Coastal Plain (8,180 acres).
- Prudhoe Bay production facilities cover less than 10 square miles of land.
- Prudhoe Bay operations cover only 2% of the unitized area; the Kuparuk oil field covers only 0.8% of its unitized area.

Technological advances have dramatically reduced the surface area required for drilling and producing oil and gas.

- If Prudhoe Bay were built today, the footprint would be 1,526 acres instead of 4,178 acres (64% smaller).
- Today's production well pads are 70% smaller than 20 years ago (13.5 acres vs. 43.7 acres).
- Today's production pads use 75% less gravel than 20 years ago (112,700 cu. yds. vs. 198,000 cu. yds.).
- Spacing between wellheads has been reduced from 135 feet to 35 feet for onshore production pads, and to 10 feet for some offshore wells.
- Ice roads for winter construction have eliminated the need for many gravel access roads.
- Land in the 1002 Area impacted by pads would be reduced by 74% compared with Prudhoe Bay; land impacted by roads would be reduced by 58%.
- Oil and gas separating facilities in ANWR will be at least half the size of comparable Prudhoe facilities.

New operating practices and consolidation of facilities further reduce the impact of the oil industry.

- Use of horizontal or directional drilling, slimhole drilling, and other advancements consolidate numerous wellheads on a single pad.
- Consolidation of oil-field service-company operations at Kuparuk Industrial Center as opposed to individual leases (Deadhorse) reduces area requirements and ensures greater regulatory compliance.
- Field operations use shared facilities, such as a single power-generating facility for the entire Prudhoe field.

Other operating practices have evolved to minimize waste and improve waste handling.

- Use of new grinder for drilling muds and cuttings has eliminated the need for reserve pits.
- Reserve pits will not be used in the ANWR 1002 Area.
- Improved waste management technologies and recycling would significantly reduce waste and eliminate many waste streams.

The potential 12,000-acre cumulative footprint assumed for development in the 19-million-acre Arctic National Wildlife Refuge is analogous to:

- An area just a bit smaller than that occupied by the two basketball hoops (2.9 sq. ft.) over a college basketball court (4,700 sq. ft.).
- The area occupied by home computer (or a VCR) relative to the total floor space of a medium-sized four-bedroom home (2,500 sq. ft.).
- The area represented by a small huton lying on the bottom of a bathtub (540 sq. in.).
- The area represented by a square 6 feet on each side relative to the area of a football field (56,600 sq. ft.).

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Waste Management, Reduced Energy Consumption, and Recycling

North Slope oil field operators have taken aggressive steps to reduce energy consumption, reuse materials wherever possible, use environmentally friendly products, and recycle. Thousands of tons of materials — from water and newspapers to plastic and barrels — are recycled each year. Better waste management helps reduce solid waste, save energy, reduce air pollution, and save water and trees.

All oil development wastes are handled in accordance with environmental regulations.

- There is no direct discharge of any material onto the tundra.
- Oil field activities produce 65,000 cubic yards of normal wastes per year (sewage sludges, garbage, scrap metals), which are disposed of in accordance with applicable regulations.
- There has been no bioaccumulation of heavy metals or other materials from wastewater in any part of the arctic food chain.

Recycling helps enhance oil recovery and increase oil yield.

- More than 66% of all produced water (nonhazardous) is injected in the oil reservoir to enhance oil recovery.
- Enhanced recovery methods such as miscible gas injection and waterflooding are expected to increase the oil yield by 12% at the Prudhoe Bay oil field.
- Up to 100% of treated wastewater is recycled for enhanced oil recovery.

Industry is moving towards zero discharge of drilling materials.

- 75% less mud is used to drill each well in Prudhoe Bay today than in 1989.
- Development of new technology such as washing and grinding drill cuttings has eliminated discharges into surface reserve pits.
- ANWR will be developed without reserve pits.
- All of the more than 1 million barrels of muds and cuttings generated in the Prudhoe Bay oil field each year are reinjected into the geologic formation.

Industry has an aggressive recycling program.

- All liquid hazardous waste and 90% of all solid hazardous waste were recycled in 1994.
- All North Slope waste lube oil (892 barrels) is recycled in Alaska.
- All lead-acid batteries are recycled each year.
- More than 7,300 pounds of aluminum have been recycled since 1991.
- More than 1 million pounds of paper products have been recycled since 1991.
- More than 26,000 tons of scrap metal have been recycled since 1989.

Industry recycling has resulted in many environmental benefits.

- More than 10,000 trees have been saved since 1991 as a result of recycling paper products.
 - More than 4 million gallons of water have been saved since 1991.
 - 33,207 fewer pounds of air pollutants have been released since 1991.
 - 1,797 cubic yards of landfill space have been saved.
 - More than 2.5 million kilowatts of energy have been saved since 1991.
-



Reclamation and Revegetation

The need for rehabilitation will continue to be reduced as exploratory wells are drilled and production pipelines are built in the winter from ice pads and ice roads that melt without a trace in the spring. Oil field development in the Arctic will continue to use gravel pads as an environmentally sound means of constructing a stable work platform in permafrost tundra. Industry has been conducting extensive research on arctic revegetation and rehabilitation techniques to help evaluate options for the eventual relinquishment of oil field leases. This pro-active approach will help reduce impacts to the environment and encourage the use of the best available scientific technology.

Exploration sites will be rehabilitated in accordance with federal and state permits.

- The Prudhoe Bay oil field has only just reached the mature phase of development, and there are no major facilities that have been abandoned.
- Industry is actively working on reclamation and rehabilitation of exploration sites.
- Industry is establishing plans for rehabilitation of gravel mine sites to maximize benefits to fish and wildlife and provide water for industrial operations.

Environmentally safe procedures are being implemented to remove gravel from the tundra and rehabilitate sites.

- Since 1990, more than 61,000 cubic yards of gravel have been removed from 912 sites as part of a gravelled-tundra rehabilitation project.
- Since 1990, more than 4,165,492 square feet of gravelled tundra (100 acres) have been cleaned.
- New techniques are being adopted, such as icing down pads prior to snow removal, to reduce the amount of displaced gravel on the tundra.
- Techniques have been tested to determine the most appropriate method of gravel removal to minimize environmental impact.
- In many cases, vegetation fully recovers in one season.
- Tundra travel is prohibited except when the tundra is frozen and has sufficient snow cover.

Research is continuing to evaluate revegetation techniques and options.

- Federal and state permits require that operations sites must be returned to a condition acceptable to the regulatory agencies.
- As part of a 10-year revegetation project, seed from 33 native plant species was harvested in 1989 and planted in 144 plots in 1990 to evaluate methods of modifying gravel pads to encourage natural revegetation. Variables being tested include gravel depth, tilling, topsoil and fertilization.
- Research is progressing on the feasibility of using specific native grasses such as *Arctophila fulva* to restore altered habitats.
- Research on wildlife use of various natural and disturbed habitats including peat roads and gravel pads will continue.

There are many examples of revegetation success.

- BP Pad in Prudhoe Bay has a 85% vegetation-cover success rate after three years of revegetation work.
- X Pad has a 90% success rate in 1990 after just 2 years of revegetation.
- Spine Road/Lake Africa and Spine Road washout in Prudhoe Bay have a 90+% success rate.



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Water and Gravel Availability in ANWR

Sufficient gravel and water are available on the ANWR coastal plain to develop oil and gas reserves in the 1002 Area. New technologies developed and used successfully for three decades at Prudhoe Bay could be applied to ANWR development. All gravel and water extraction would require permits and would be carefully reviewed by federal and state agency personnel.

Gravel is the most structurally and environmentally sound construction material for operations and facilities on the North Slope.

- Gravel insulates the permafrost and provides a stable operating platform.
- Gravel is naturally abundant in the 1002 Area within 75 feet of the surface, as shown by exposed gravel floodplains and by boreholes made during the 1983 and 1984 geophysical surveys (over 1,336 line-miles of seismic surveys were completed).
- Gravel requirements can be minimized by consolidating support facilities and by drilling 30 to 50 wells from a single 10-acre pad, depending on the formation and characteristics of the reservoir.

Surface impacts and habitat changes from gravel removal can be mitigated.

- Upland sites can be connected to nearby water systems and turned into water reservoirs and fish overwintering habitat; the bank can be restored successfully by contouring, adding soil cover, and revegetation.
- Active floodplains can be flooded and used as water sources while also providing valuable fish habitat.
- Removal of gravel does not adversely affect water quality or fish habitat.
- Gravel permit conditions typically include restrictions on location of the gravel pit, removal techniques, periods of operation, and restoration requirements.
- Monitoring is routinely conducted to evaluate any unforeseen effects from a project.

Water availability will not limit the industry's ability to operate responsibly in the desert environment of the coastal plain.

- Naturally occurring water resources (including precipitation) are limited in the 1002 Area, but numerous options exist.
- To protect habitat and water quality, permit conditions provide strict criteria for water removal techniques, extraction periods, discharge limits, and water-source restoration plans.
- Limited availability of fresh water will not result in a significant depletion of regional water supplies that might harm fish and wildlife populations.
- An average exploration well in the 1002 Area would require about 20,000 gallons per day or 600,000 gallons of water per month, equivalent to the average monthly water use of 40 Anchorage households.
- An ice pad (500 ft. x 500 ft.) and 1 mile of ice road (40 ft. wide) would require 1,000,000 gallons.
- A rig camp for 60 people would require 6,000 gallons per day.
- Ice road maintenance would require 5,000 to 10,000 gallons per day.

Proven methods of water extraction have already been used in one or more of the 250 exploratory wells drilled in the Arctic.

- 80% of the water used to drill the KIC well site in ANWR was collected from snow fences.
- At Prudhoe Bay, over 1 million gallons of treated ocean water are used for waterflooding 30% of the field.
- More than 100,000 gallons of sea water can be desalinated each day from a small plant such as Endicott's.
- 300,000 gallons of fresh water could be provided each day by the smallest of the available vacuum evaporator systems.
- Deepening of existing ponds provides water and creates overwintering habitat for anadromous fish.
- Desalination of sea water provides potable water.
- Conversion of gravel pits to water reservoirs provides water.
- Insulation of ponds to prevent freezing to the bottom adds to the water supply.

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Not the "Biological Heart of the Arctic"

The 1.5-million-acre 1002 Area is not the biological heart of the Arctic National Wildlife Refuge. The heart of the coastal plain is its geology and petroleum potential. Polar bears rarely den in the region and caribou often calve in other areas, including Canada. Wildlife use of the region is temporary, and the wilderness qualities of the refuge would remain untouched by development.

The ANWR 1002 Area does not serve a vital or unique role in arctic biological processes.

- Other areas of the coastal plain — including the Central Beaufort area — are significantly more important biologically.
- The central Beaufort area (Prudhoe region) — with its continuum of wetlands, moist tundra, uplands, and foothills — and the National Petroleum Reserve-Alaska (NPRA) both offer a broader range of habitat types and support more species and greater overall numbers of wildlife than ANWR.
- NPRA is a more complete, diverse, and virtually undisturbed ecosystem than the 1002 Area in ANWR.
- The Western Arctic Caribou Herd in NPRA is nearly three times as large as the Porcupine Caribou Herd.
- Hundreds of wolverines inhabit the Wilderness Area, but only a few visit the 1002 Area.
- More than 200 moose are found in the Refuge, but less than 25 frequent the 1002 Area.
- More than 6800 Dall sheep are found in the Refuge, but they are rarely seen in the 1002 Area.
- The majority of wildlife — including grizzly bears, wolves, peregrine and falcons — preferentially use the foothills of the Brooks Range in ANWR, an area already protected as Wilderness.

1002 Area used by Porcupine Caribou Herd with significant annual variation.

- The Porcupine Caribou Herd uses the coastal plain for only 6 to 8 weeks per year.
- Highly variable use suggests adjacent regions are equally acceptable.
- The distribution of caribou calving in the 1002 Area is largely a function of snow conditions.
- Large numbers of cows have used the Jago uplands, but only infrequently do more than 50% of the cows calve in the area.

Fleeting wildlife use of 1002 Area is important, but hardly critical.

- The U.S. Fish and Wildlife Service has confirmed only four polar bear dens in the 1002 Area since 1989.
- The majority of rivers crossing the 1002 Area do not support fish populations.
- The 1002 Area has no standing-water wetlands suitable for waterfowl habitat.
- In some years, snow geese use the 1002 Area during staging for 2 weeks in autumn.
- The distribution of most birds using the area is highly variable.
- The vast majority of birds winter in different countries far from the 1002 Area.
- Only 6 species of birds are permanent 1002 Area residents.
- Areas outside the 1002 Area boundaries support more tundra swans (95 pairs of tundra swans nested in the 1002 Area in 1989; 135 pairs nested to the west in the Prudhoe Bay and Kuparuk oil fields).

ANWR is not a pristine wilderness.

- The region was used extensively for reindeer herding in the past.
- The 1002 Area has active and abandoned military defense establishments.
- The 1002 Area is home to village of Kaktovik with 220 Inupiat residents.
- The 1002 area is traversed extensively by native subsistence hunters on snow machines and ATVs in search of wildlife to the south in the foothills of the Brooks Range.
- The 1002 area is used for hunting and fishing.



Not "America's Last Wilderness"

Only the 1002 Area of the Arctic National Wildlife Refuge can be considered for development. The remaining 18.3 million acres would still be off limits, with 8 million acres permanently designated as Wilderness. The small fraction of the total wildlife refuge is not a pristine, untouched wilderness area. There are communities and military developments. The wilderness values of the refuge would not be impacted by development of the 1002 Area.

ANWR is not the last remaining Alaskan Wilderness.

- More than 192 million acres of the State of Alaska are *already* protected in Wilderness Areas, National Parks, National Preserves, National Forests, National Wildlife Refuges, National Wild and Scenic Rivers, State Parks, State Preserves, State Critical Habitat Areas, State Marine Parks, and many other federal and state conservation units.
- Wilderness areas in Alaska equal the *combined* area of Pennsylvania, New Jersey, West Virginia, and Maryland.
- New government proposals could add over 12 million acres of new federal Wilderness across Alaska, leaving the state with over two-thirds of *all* federally designated Wilderness.
- Other Wilderness Areas exist that provide more complete, diverse and virtually undisturbed habitat.

ANWR is not the last remaining undisturbed arctic Wilderness.

- More than half a million acres of Arctic Alaskan coastline between the 1002 Area and the Canadian border are already designated as Wilderness, adjoining Canada's 3-million-acre Northern Yukon National Park.
- More than 943 miles of Arctic Alaskan coastline to the west of the Colville River is *not* open to development; much of this is the 23-million-acre National Petroleum Reserve-Alaska (NPR-A), which is under consideration for National Wildlife Refuge status.
- Wilderness in ANWR after development of the 1002 Area would be larger than South Carolina.

Industry is not seeking to open the Wilderness Area to development.

- The 1002 Area is not designated as Wilderness; it was set aside for special study because of its unique petroleum potential.
- Only 1.5 million acres (8%) of the 19.8-million-acre Arctic National Wildlife Refuge are under consideration for leasing.
- The Office of Technology Assessment has estimated that structures and pipelines would directly affect between 5,000 and 7,000 acres of the coastal plain, *less than 1%* of the surface of the 1.5-million-acre 1002 Area.
- 99% of the 1002 Area will remain untouched, even under full leasing.
- After two decades of experience in the Alaskan Arctic, there are no scientific studies by regulatory agencies, academic institutions, or industry that have ever documented a population decline of any species in response to arctic oil field operations.



Causeways in the Beaufort Sea

Causeways are gravel structures that have been used to access nearshore oil and gas reserves in the shallow waters of the nearshore Beaufort Sea. They represent an environmentally sound alternative and do not adversely impact fish or the local oceanography. Causeways also provide a stable platform for wells, production facilities, and pipelines.

Gravel islands and roadways constructed in shallow nearshore areas on the Alaska Beaufort Sea serve multiple uses.

- Provide production pad for oil reserves located too far offshore for onshore drilling
- Provide access to deep water for barge docking and offloading production modules.
- Enhance oil recovery and improve production efficiency by providing access to deep sea water used in waterflooding oil reservoirs.
- Provide a stable surface for support of pipelines.

Causeways have significant environmental benefits.

- Provide year-round access to offshore sites — access that is vital for emergency response.
- Increase ability to respond to oil spills and enhance capacity to contain oil spills.
- Help avoid potential damage to pipelines from sea ice movement.

There is no scientific evidence of adverse effects on any fish species.

- Agency concerns of possible adverse effects on anadromous fish habitat and populations are unfounded.
- Over one million lines of data have been collected in 15 years of environmental studies.
- More than \$60 million has been spent for environmental monitoring since 1981.
- Changes in temperature and salinity at Endicott are within limits predicted by the project EIS, confined to the immediate vicinity of the structure, and within ranges of natural variation for the region.
- North Slope Borough monitoring study concluded that fish populations and fisheries have not been adversely affected by causeways.
- Catch levels of Native subsistence fisheries are comparable to pre-construction levels.
- The highest commercial catch on record occurred with both the West Dock and Endicott causeways in place (35,561 fish, in 1988).

Causeways are proven technology for arctic conditions.

- Causeways are an environmentally safe means of accessing nearshore reserves.
- Alaska state and local governments have consistently supported causeways.
- Projects are highly regulated and monitored by U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and the U.S. Environmental Protection Agency, in addition to state and local government agencies.
- The causeway agreement between industry and the Corps of Engineers states that reasonably breached causeways may be one of several appropriate technologies for oil and gas development in the nearshore Beaufort Sea.

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Petroleum and Petrochemicals: Thousands of Uses

Almost 6,000 products are made from hydrocarbons — just a few are listed below. Without oil, our lives would change dramatically. The complex molecules in crude oil are used to create many petrochemical products like medicine, soaps, plastics and many items we use every day.

Recreational



- Toys, Lego's®, Barbie®
- Mighty Morphin Power Rangers®
- Footballs, soccer balls, football helmets, tennis racquets
- Hockey sticks, masks, helmets, and shin guards
- Athletic shoes
- Tents, tarps, mosquito netting
- Basketballs and backboards
- Gore-tex®, rain gear, wet suits, survival suits, hip waders
- Sleds, kayaks, climbing ropes
- Water and snow skis, ski poles and boots, mitts, hats
- Poly-whatever clothing
- Fishing poles, lines and nets
- Snowboards, wind surfing boards and sails, sailboats
- Backpacks, sleeping bags
- Thermos® jugs
- Swim goggles, swim suits, fins, scuba gear, snorkeling gear
- In-line skates, ice skates
- Bikes, bike helmets, bike shorts

Home



- TVs, VCRs, video cassettes, tapes, CDs, records, stereos
- Telephones, pagers, clocks, radios, headphones
- Clothing, shoes, boots, jewelry, plastic hangers
- Carpets, rugs, upholstery, couch cushions
- Lamps, electrical wiring, security systems, light fixtures, fans
- Books, newspapers (paper and ink), artwork (paintings)
- Blankets, foam for mattress and pillows, linens
- Paint, wallpaper, blinds, curtains, insulation, garbage cans
- Garden tools, potting soil, lawn chairs, hoses, sprinklers

Bathroom



- Medicine, aspirin, bandages
- Cleaning agents, scrub brushes, hydrogen peroxide
- Containers for almost everything
- Braces for your teeth
- Glasses and contact lenses
- Cosmetics, lipstick, moisturizers
- Soap, toothbrushes, toothpaste, shampoo, bubble bath, baby powder
- Linoleum, bathtubs, toilets, counter tops, cabinets, sinks
- Shower curtains, water pipe, plastic fixtures, towel racks
- Diapers, baby bottles
- Perfumes, hair dye, air fresheners, nail polish, stockings, hair spray
- Blow dryers, hair curlers

Kitchen



- Floors, counter tops, faucets
- Appliances, blenders, toasters, coffee makers, coffee grinders, can openers
- Paper products, plastic wrap, aluminum foil
- Dishes, glasses, Tupperware® containers, Teflon® pots and pans, plastic drink bottles and milk containers
- Cleaners, insecticides, glue
- Flavorings and preservatives
- Shelf paper, dish drainers
- Dog and cat food
- Garbage bags, plastic-handled scissors and knives
- Batteries and candles

Industrial



- Gasoline, jet fuel, kerosene, propane
- Heating oil, lubricating oil
- Paraffin, tar and grease
- Medical items like prostheses, surgical supplies, crutches
- Safety windshields, car tires, antifreeze
- Asphalt pavement
- Siding and screens
- Fertilizers, insulation, sealants
- Firefighting equipment

Office



- Computers, typewriters, keyboards and screens, printers, disks, three-ring binders
- Telephones, copiers, facsimile machines, answering machines, calculators
- Photographic film and toners for printers and copiers
- Office partitions, veneer for furniture (desks, bookcases, chairs, tables)
- Desk accessories, pens and inks, tape, labels, correction fluids
- Coffee makers, Styrofoam® coffee stirrers, plastic spoons, and artificial creamers
- Artificial plants

**ORAL TESTIMONY OF
DELBERT REXFORD
SPECIAL ASSISTANT TO
MAYOR GEORGE N. AHMAOGAK, SR.
NORTH SLOPE BOROUGH, ALASKA**

**BEFORE
THE UNITED STATES
HOUSE OF REPRESENTATIVES
RESOURCES COMMITTEE**

**THE FUTURE OF THE COASTAL PLAIN AREA OF THE
ARCTIC NATIONAL WILDLIFE REFUGE
AND THE ARCTIC OIL RESERVE**

August 3, 1995

I am Delbert Rexford, Special Assistant to George N. Ahmaogak, Sr., Mayor of the North Slope Borough in the State of Alaska. I come before your Committee today in support of legislation to open the Coastal Plain of the Arctic National Wildlife Refuge ("ANWR") to oil and gas exploration and development.

☛ The North Slope Borough

I would like to take a moment to tell you about my home, the North Slope Borough. As a political subdivision of the State of Alaska, the Borough covers

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about 89,000 square miles of the northernmost area of the State. The Borough is the largest municipality in this country -- made up of mountains, rivers, plains of permafrost-covered tundra, and 2,600 miles of Arctic coastline. The large majority of the Borough's more than six thousand five hundred residents are Inupiat Eskimo.

■ The Inupiat Inhabitants of the North Slope

Like myself, the vast majority of the Borough's population are Inupiat Eskimos. Our ancestors have inhabited the area for thousands of years, surviving the harsh climate primarily through subsistence hunting. Like most of our people, I am a subsistence hunter of whales, birds, fish, seals, caribou and other wildlife to feed and clothe my family -- and to share with other residents of our Villages. As all Inupiat hunters do, I am passing on to my children (and through them to succeeding generations) the tradition of subsistence activities. Inupiat would not choose to do anything that could harm the centuries of tradition underlying our Native way of life.

Some people have stated that the Coastal Plain of ANWR is a pristine

Testimony regarding the Coastal Plain of ANWR
by Delbert Rexford of the North Slope Borough, Alaska
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wilderness that should be closed off forever to human activity. This is simply wrong. It is not an unpopulated wilderness. One of our eight Villages is in the Coastal Plain. It is also the site of a major military facility. The Coastal Plain is used by our people for subsistence and other purposes. The North Slope is home to thousands of Inupiat people. With the right decisions on resource development and management, it will remain so for generations to come.

☛ The Benefits of Oil and Gas Activity to the Borough.

As many of you know, in 1968, the nation's largest commercial oil discovery was made at Prudhoe Bay, on Alaska's North Slope. North Slope oil has provided benefits not only for the people of the North Slope Borough, but for all people in Alaska, and throughout the United States. Federal tax revenues from oil development are substantial and over eighty-five percent of the State of Alaska's public programs are funded through oil revenues.

In 1972, the North Slope Borough was established as a home rule Borough. From modest beginnings, the Borough has developed into a modern municipal system responsible for more territory than any other local government in the

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nation, and providing essential public services never before available to the Inupiat people of the Arctic. The North Slope Borough and State programs are now bringing medical, educational, sanitation, fire protection, police, search and rescue, and other essential public services to its residents. These benefits of modern American civilization, common in the rest of the nation, have been built on the foundation of the North Slope Borough and the presence of the oil industry and the tax base it generates. This tax base also makes possible regulatory actions which protect our region's environment, fish and wildlife, and subsistence resources.

Oil development can co-exist with environmental protection

The original development of oil at Prudhoe Bay in the late 1960s and early 1970s caused concern among our Inupiat people. Survival on the North Slope required knowledge of and respect for the weather, the animals, and the land. The coming of oil production and new technology caused concern and led to fear that our home might somehow be harmed.

The experience of the residents of the North Slope Borough over the past 25

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years demonstrate that these fears were unfounded. As a local government, we have exercised our regulatory powers to hold the oil industry to strict environmental and public health standards. The results have been an unqualified success. Our fish and wildlife resources are flourishing alongside oil and gas production. For example, the Central Arctic Caribou Herd, which occupies Prudhoe Bay and other North Slope oil fields, has grown from 3,000 in 1972 to 23,000 today.

■ We need Prompt ANWR Exploration and Leasing

No one disputes that the Coastal Plain is the nation's best prospect for major new oil and gas reserves. This does not necessarily mean that there will be a discovery to equal Prudhoe Bay. Yet, the potential is there to strike one or more Prudhoe Bay-size oil fields. Exploration on the Coastal Plain must begin soon, however, to allow commercial reserves found in the Coastal Plain to be transported to markets in the lower 48 states. If Prudhoe Bay and other reserves continue to be depleted, the Trans-Alaska Pipeline System will eventually become uneconomic and be retired and dismantled. If this happens, it is unlikely that Coastal Plain oil and other potential North Slope oil fields, on-shore and off-shore, could ever be

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produced. This would also mean that other oil discoveries on the North Slope may never reach commercial production.

If oil production continues its decline, many of our children, who have now experienced life with some of the public services that most Americans take for granted, may have to choose to leave the North Slope. Others, who are away at college or technical schools will not have the option of returning to their homes, their families and their culture. If that happens, the Inupiat Eskimo people and their unique culture, language and traditions would become nothing more than a memory.

■ Immediate Needs on the North Slope: Impact Aid

I must also bring up one issue of great importance to our Borough and, in particular, to the village of Kaktovik. If the Coastal Plain of ANWR is opened to development, there will be a lengthy period before any taxes are generated. The time between leasing and oil production in the Arctic is 10 to 15 years. As Coastal Plain development changes the employment base in Kaktovik, existing public services will have to be greatly expanded. New public needs and problems

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will be encountered. The Village of Kaktovik is not a taxing entity; the land around Kaktovik is not subject to real estate taxes because it is owned by the Kaktovik Inupiat Corporation and remains undeveloped. Accordingly, it has been the North Slope Borough that has built, and continued to maintain and supply public facilities and services to the village.

Being forced to pay up front for significant expansion of services will have a devastating effect on the North Slope Borough's already stretched budget. On behalf of the Mayor, I urge the Committee to include provisions for Impact Aid in the legislation to open the Coastal Plain.

Conclusion: the North Slope Borough Supports ANWR Leasing

On behalf of the people of the North Slope, I appreciate the opportunity to present this testimony to your Committee. As the Mayor's Special Assistant, I can state decisively that the vast majority of people of the North Slope enthusiastically support the presence of the oil industry on our land. Opening the small 1.5 million acre Coastal Plain of ANWR to oil and gas leasing and exploration is the right thing to do. This conclusion is based on both analysis and 25 years of

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experience at Prudhoe Bay and other North Slope oil fields. As I discussed above, the potential resources of ANWR's Coastal Plain are of critical importance to the future of current North Slope Borough residents, the future of their children, and the future of generations yet to come. On behalf of Mayor Ahmaogak and all the residents of the North Slope, I implore this Congress to make the only logical, rational and reasonable decision it can on this issue: vote to open the Coastal Plain of ANWR to environmentally sound and properly regulated oil and gas leasing, exploration and development.

Thank you.

**STATEMENT OF
MAYOR GEORGE N. AHMAOGAK, SR.
NORTH SLOPE BOROUGH, ALASKA**

**TESTIMONY
SUBMITTED FOR THE RECORD
BEFORE
THE HOUSE RESOURCES COMMITTEE**

August 3, 1995

I am George N. Ahmaogak, Sr., Mayor of the North Slope Borough in the State of Alaska. I submit this testimony today in support of legislation to open the Coastal Plain of the Arctic National Wildlife Refuge ("ANWR") to oil and gas exploration and development.

1. The North Slope Borough

The North Slope Borough is a political subdivision of the State of Alaska. The Borough's jurisdiction covers approximately 89,000 square miles of the northernmost region of the State. As the largest municipality in the United States, the Borough is made up of mountains, rivers, plains of permafrost-covered tundra, and 2,600 miles of Arctic coastline. The more than 6,500 residents of the North Slope are located in eight sparsely-populated villages ranging from Point Lay with 150 residents, to Barrow with 3,300 residents, to Kaktovik with 240 residents. The large majority of the Borough's residents are Inupiat Eskimo. Most residents of the North Slope live in coastal villages. None of the villages can be reached by road; air travel and telecommunications provide the necessary links for our citizens. Nevertheless, we are one people: the people of the North Slope.

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One must understand that, in the enormous expanse of the Borough's territory, there is almost no private land; it is all owned by the United States, the State of Alaska, or Native Regional and Village Corporations. The Borough, however, has civil jurisdiction over the entire area and therefore is responsible for the significant infrastructure maintenance and development needed by the people. Accordingly, the decision of the 104th Congress with respect to the future management of the Coastal Plain area of the 19 million acre Arctic National Wildlife Refuge is of tremendous importance to the North Slope Borough and its residents.

2. The Inupiat Inhabitants of the North Slope

The vast majority of the Borough's population are Inupiat. Our ancestors have inhabited the area for thousands of years, surviving the harsh climate primarily through subsistence hunting. In addition to being Mayor of the Borough, I am a Whaling Captain. I am also a subsistence hunter of birds, fish, seals, caribou and other wildlife to feed and clothe my family -- and to share with other residents of our Villages. Ours is a culture of interdependence and sharing. As all Inupiat hunters do, I am passing on to my children (and through them to succeeding generations) the tradition of subsistence activities. I would not choose to do anything that could harm the centuries of tradition underlying our Native way of life.

In short, we people of the Arctic have an ageless tradition of relying on the land and the sea to provide the necessities for our families and villages. We pass along the ancient ways to our children and

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grandchildren, taking care to teach them that harm to the land will most likely result in the death of the Inupiat culture.

Some people have stated that the Coastal Plain of ANWR is a pristine wilderness that should be closed off forever to human activity. This is simply wrong. It is not an unpopulated wilderness. One of our eight Villages is in the Coastal Plain. It is also the site of a major military facility. The Coastal Plain is used by our people for subsistence and other purposes. The North Slope is home to thousands of Inupiat. With the right decisions on resource development and management, it will remain so for generations to come.

3. The Benefits of Oil and Gas Activity to the Borough

In 1968, the nation's largest commercial oil discovery was made at Prudhoe Bay, on Alaska's North Slope. This discovery has led to enormous technological, economic, and social change. North Slope oil has provided benefits not only for the people of the North Slope Borough, but for all people in Alaska, and throughout the United States. Federal tax revenues from oil development are substantial; over eighty-five percent of the State of Alaska's public programs are funded through oil revenues.

In 1972, the North Slope Borough was established as a home rule Borough. From modest beginnings, the Borough has developed into a modern municipal system responsible for more territory than any other local government in the nation. The Borough provides essential public services never before available to the Inupiat people of the Arctic.

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North Slope oil has created jobs and improved the quality of life for many Borough families. The North Slope Borough and State programs are now bringing medical, educational, sanitation, fire protection, police, search and rescue, and other essential public services to its residents. These benefits of modern American civilization, common in the rest of the nation, have been built on the foundation of the North Slope Borough and the presence of the oil industry. Oil and gas development created the necessary tax base to finance not only needed public services, but also regulatory actions that protect our region's environment, fish and wildlife, and subsistence.

Close to three quarters of the Borough's annual revenues are generated by property taxes on oil field equipment and installations. Close to two thirds of our workforce is employed by the Borough, and much of the remaining workforce works directly for the oil industry, or indirectly by providing contractual and oil field services. The residents of the North Slope Borough do not want to return to a substandard existence or the conditions that existed 25 years ago. Yet, in order to avoid that, oil production needs to continue on the North Slope. The Borough believes that close cooperation between industry and our local government can ensure that environmentally sound development takes place that will benefit our residents, the State of Alaska and the entire nation.

4. Impact of ANWR Coastal Plain Leasing on the North Slope Borough

As the elected leader of the North Slope Borough, serving my third term as Mayor, it is my obligation to have the highest interests of my electorate in mind at all times.

As Mayor, I can state decisively that the vast majority of people of the North Slope enthusiastically

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support the presence of the oil industry on our land. Opening the small 1.5 million acre Coastal Plain of ANWR to oil and gas leasing and exploration is the right thing to do. This conclusion is based on an analysis and 25 years of experience at Prudhoe Bay and other North Slope oil fields. It is the product of a combination of first-hand scientific, economic, and traditional cultural experience and knowledge.

The North Slope Borough has had close to twenty-five years of experience with onshore oil and gas exploration and development. We have learned that our traditional culture can be balanced and enhanced with such development. Our local regulations and ordinances have been enacted to both protect subsistence hunting and to allow development.

I ask members of this Committee and the Congress to keep in mind that residents of the North Slope Borough live in a very remote area of the world. The future of our children and the quality of our lives are determined in major respects by the short-term, and often narrow, policy objectives of the oil industry, the Alaska State government, federal agencies and the Congress. As the representative of the people of the North Slope, the Borough must work to ensure that the activities of the industry, the State and Federal agencies are conducted in ways that recognize and are consistent with the interests of the residents of the North Slope. For most people who call the North Slope home, the villages that make up the Borough are places to raise families, maintain a unique Native culture, and continue traditional subsistence activities while enjoying the benefits -- jobs, schools, medical facilities, communications, housing -- that oil has made possible.

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5. The People of the North Slope Have Learned That Oil Development Can Co-exist With Environmental Protection

The original development of oil at Prudhoe Bay in the late 1960s and early 1970s caused concern among the Inupiat of the North Slope. Survival on the North Slope required knowledge of and respect for the weather, the animals, and the land. The coming of oil production and new technology caused concern and led many to fear that our home might somehow be harmed.

The experience of the residents of the North Slope Borough over the past 25 years demonstrate that these fears were unfounded. As a local government, we have exercised our regulatory powers to hold the oil industry to strict environmental and public health standards. The results have been an unqualified success. Our fish and wildlife resources are flourishing alongside oil and gas production. For example, the Central Arctic Caribou Herd, which occupies Prudhoe Bay and other North Slope oil fields, has grown from 3,000 in 1972 to 23,000 today.

6. Why the North Slope Borough Supports Prompt ANWR Exploration and Leasing

No one disputes that the Coastal Plain is the nation's best prospect for major new oil and gas reserves. This does not necessarily mean that there will be a discovery to equal Prudhoe Bay. Yet, the potential is there to strike one or more Prudhoe Bay-size oil fields. Quite simply, the Coastal Plain of ANWR presents the single most important option available to the nation to add major new domestic reserves and production.

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Exploration on the Coastal Plain must begin soon, however, to allow commercial reserves found in the Coastal Plain to be transported to markets in the lower 48 states. If the Coastal Plain is not opened to exploration in the near future, there is an increasing risk that Prudhoe Bay and other reserves will be depleted. This means that the Trans-Alaska Pipeline System will eventually become uneconomic and be retired and dismantled. If this happens, it is unlikely that Coastal Plain oil and other potential North Slope oil fields, onshore and offshore, could ever be produced. This would also mean that other oil discoveries on the North Slope may never reach commercial production.

If exploration and leasing on ANWR's Coastal Plain does not begin soon, the quality of life for the people of the North Slope may well regress to that of a third-world nation. Prudhoe Bay's oil production peaked in 1990 and now is in decline. Oil production is down from over 2 million barrels per day to 1.5 million barrels per day. Absent new discoveries, we will soon see our Borough tax base seriously eroded. This means the minimal public services we enjoy today will be cut back, or even eliminated. Further, if oil production continues its decline, many of our children, who have now experienced life with some of the public services that most Americans take for granted, may have to choose to leave the North Slope. Others, who are away at college or technical schools, will not have the option of returning to their homes, their families and their culture. If that happens, the Inupiat Eskimo people and their unique culture, languages and traditions would become nothing more than a memory.

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7. Immediate Needs on the North Slope: Impact Aid

I must also bring up one issue of great importance to our Borough and, in particular, to the village of Kaktovik. If the Coastal Plain of ANWR is opened to development, there will be a lengthy period before any taxes are generated. The time between leasing and oil production in the Arctic is 10 to 15 years.

The Village of Kaktovik is not a taxing entity; the land around Kaktovik is not subject to real estate taxes because it is owned by the Kaktovik Inupiat Corporation and remains undeveloped. Accordingly, it has been the North Slope Borough that has built, and continued to maintain and supply, public facilities and services to the villages, as well as exercising zoning, planning permitting and other regulatory responsibilities. As Coastal Plain development changes the employment base in Kaktovik, existing public services will have to be greatly expanded. New public needs and problems will be encountered.

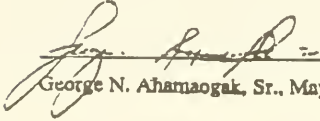
Being forced to pay up front for significant expansion of services will have a devastating effect on the North Slope Borough's already stretched budget. There is much precedent for impact aid in areas dominated by federal lands. I urge the Committee to include provisions for Impact Aid in the legislation to open the Coastal Plain. With advanced planning and modest financial aid, Kaktovik and other areas can be ready to play the necessary roles to support exploration and development.

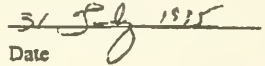
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8. Summary and Conclusion

On behalf of the people of the North Slope, I appreciate the opportunity to present this testimony to your Committee. As I discussed above, the potential resources of ANWR's Coastal Plain are of critical importance to the future of current North Slope Borough residents, the future of their children, and the future of generations yet to come. I implore this Congress to make the only logical, rational and reasonable decision it can on this issue: vote to open the Coastal Plain of ANWR to environmentally sound and properly regulated oil and gas leasing, exploration and development.

Thank you.


George N. Ahmaogak, Sr., Mayor


Date



ARCO Alaska, Inc.

**Statement of Michael R. Joyce
Senior Consultant, Biological Sciences
ARCO Alaska, Inc.**

before the

**Committee on Resources
U.S. House of Representatives**

**Hearings on Opening the Coastal Plain
of the
Arctic National Wildlife Refuge
to Oil Exploration and Development**

August 1, 1995

Mr. Chairman, members of the Committee, my name is Mike Joyce. I am the Senior Biologist with ARCO Alaska stationed in Anchorage. We appreciate the invitation to update you on a few of the more important biological factors related to Arctic oil field operation and management. In the brief time I have today I will only be able to address some of the issues that should be assessed in making a decision about the feasibility of future oil field development in the Arctic Oil Reserve. I have over 21 years of direct experience in planning, building, and managing how oil field operations interact with Arctic wildlife, hence I hope we have the chance to talk about a few additional issues in the time allotted to us for questions and answers.

I have been active on the Arctic Oil Reserve issue since the mid 1980's. I have always been puzzled why so little credibility is given to the existing biological record of the North Slope oil fields. Those opposed to oil development in the Arctic Oil Reserve most frequently state that their opposition is based on the serious damage that will occur to local wildlife and their habitats. Where is the evidence that supports those concerns?? Why do these opponents continue to either ignore or discredit the evidence collected over 20 years of operating Arctic oil fields? Much of that evidence was collected by the state or federal resource agencies. Why is it that only their assumed negative impacts from existing oil fields, by the way, which are all based on old technology transfer to a new area, while all the positive conclusions, like caribou will pass under an elevated pipeline, will not correlate with a new development in a new location? Why do they expect the animals 80 miles east to behave completely different from those for which we have over 20 years of evidence. That evidence is clear. By all defensible scientific accounts the fish and wildlife resources in the Prudhoe Bay region are healthy, productive and perform normally. Animals living 80 miles east should be expected to behave the same way.

Let's look at some of that biological record. Let's take the two animals that are most sensitive to development. One mammal and one bird. Most of you know the record for population growth for the Central Arctic Caribou Herd. That herd has grown 8 fold since the first population estimate in 1972. The last good full herd estimate was in 1992 and concluded there were about 23,500 animals. The Alaska Department of Fish and Game (ADF&G) conducted a new survey this summer but has not yet tallied its count. So, as you know, the oil fields have not affected the population growth of the Central Arctic Herd (CAH). But let's look at another aspect of caribou and oil fields and habitat requirements. This summer the Central Arctic Herd calved for the most part south of the Kuparuk oil field, about 15 to 20 miles inland, as has been its normal pattern for the past 7 to

8 years. Caribou calving locations are driven in large part by annual tundra snow melt patterns and in normal years the coastal strip, within 10 miles or so of the Beaufort Sea, is the last to become snow free. Hence, this coastal strip is not critical for successful calving, and indeed calving typically does not occur this far north. However, this coastal strip is very important to these caribou during the insect harassment season in July. These same habitat use and distribution patterns hold true for both the Porcupine and Center Arctic caribou herds. The oil fields within the range of the Central Arctic Herd are mostly within this coastal strip. Thus, an important question is have the existing oil fields impeded relief from the annual insect harassment? The answer is no. In fact, we have seen a very interesting adaptation in the way these caribou respond during this insect season to the presence of our oil development. During hot, wind free periods when insects are most active, hundreds and collectively thousands of caribou will move onto our gravel pads and stand there for hours to minimize their insect harassment. Tests have shown insects numbers to be substantially less on the gravel pads. The two exhibits I brought with me illustrate this behavior. Remembering the evidence tells us the Porcupine Caribou Herd also usually calves south or east of the Arctic Oil Reserve coastal strip, but frequently moves to that coastal strip to avoid insects, why shouldn't we expect the same type of adaptation and beneficial use by caribou of gravel drill pads and roads ?

There is one additional aspect of caribou and oil fields I want to bring to your attention that should have direct bearing on the caribou questions being asked about the Arctic Oil Reserve. In 1992 the US Fish and Wildlife Service, Alaska Department of Fish & Game, the North Slope Borough, and the Alaska Oil and Gas Association formed a joint caribou steering committee to evaluate and synthesize the effects of oil field mitigation measures on caribou movement and normal behavior. The final report was issued last fall and its conclusions were approved by all participating groups. Concurrence signatures of the Regional Director of US Fish and Wildlife Service, Commissioner of the Alaska Department of Fish and Game, and the Director of the North Slope Borough Wildlife Department are inside the report's cover. I have submitted a copy of that report for the record. That report's basic conclusion is that with the exception of cows with new born two to three week old calves, the mitigation measures implemented by the industry have been effective in allowing free movement of caribou throughout the field. After calves mature past about two to three weeks they as well move freely throughout the field.

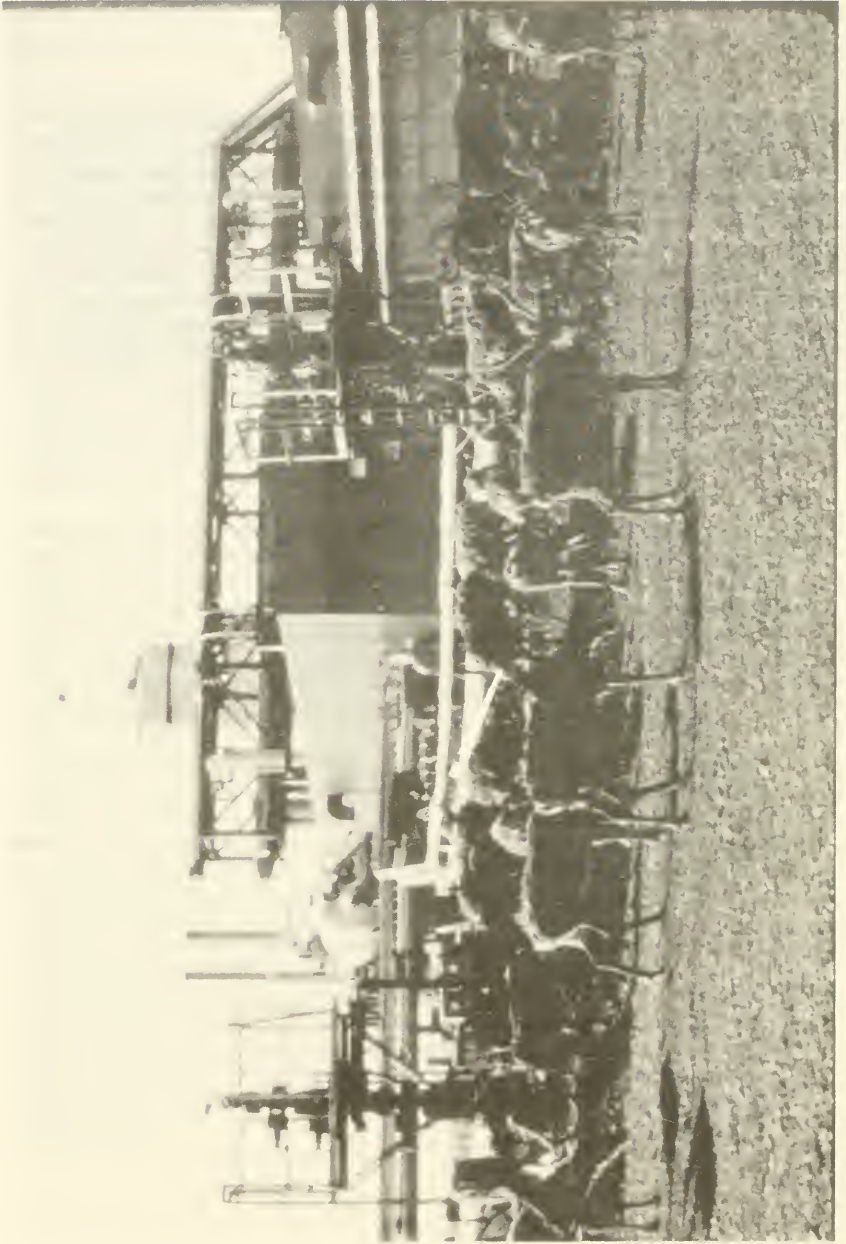
Lets look at the other sensitive animal, the tundra swan. Because swans are less tolerant of disturbance than other waterfowl we monitor swan nesting and brood rearing distribution and abundance as an indicator of overall waterfowl health within the oil fields. Sort of an early warning sign that something may not be right. This summer we are completing our 9th consecutive survey of this activity in the KRU. Remember KRU was being built in the decade of 1980s and rapidly expanding its presence and activity. In general, during these nine years swan numbers and numbers of nests have been slowly increasing or holding stable inside the KRU. This summer (1995) we had our highest count of nests with 108 nests located inside the oil field. That is a 116% increase over 1994. We also observed 452 adult swans which is a 46% increase over 1994. The swan population and waterfowl populations continue to be healthy and productive inside all existing North Slope oil fields. Again, we should expect birds 80 miles to the east to show a similar positive response to oil field activity.

Let me very quickly mention one additional bird. In 1993 the Spectacled Eider was listed as a threatened species. This bird does nest in the existing oil fields. In cooperation with the USFWS we monitor that birds abundance and distribution every year and have found its numbers to be stable inside the fields. But of importance to an Arctic Oil Reserve issue, I point out that in listing this species, the US Fish and Wildlife Service said the North Slope oil fields have not been a substantial contributor to the decline of this bird. In fact, the oil fields appear to be a local strong hold with numbers up substantially in 1995.

In the time I have left I would like to turn to two related construction and operational environmental issues. Some have said in the recent months that there is not enough water or gravel in the AOR to support oil development. Most of the rivers and streams in the AOR are large braided systems that are of mountain origin and thus carry a lot of gravel in their bed load and have large unvegetated gravel bars within their floodplains. These rivers are uniformly spaced about every 10 miles or so east to west across the AOR. The USFish and Wildlife Service conducted a six year study of best gravel mining practices in Alaska and concluded and recommended that the gravel can and should be mined from these floodplain deposits. I've also brought a copy of their Guidelines Manual on Gravel Site Development in the Arctic and submit it for the record. With active gravel replenishment from these mountain origin streams, reduced development footprint size, and well spaced braided rivers; gravel is available in more that sufficient quantity to support potential development.

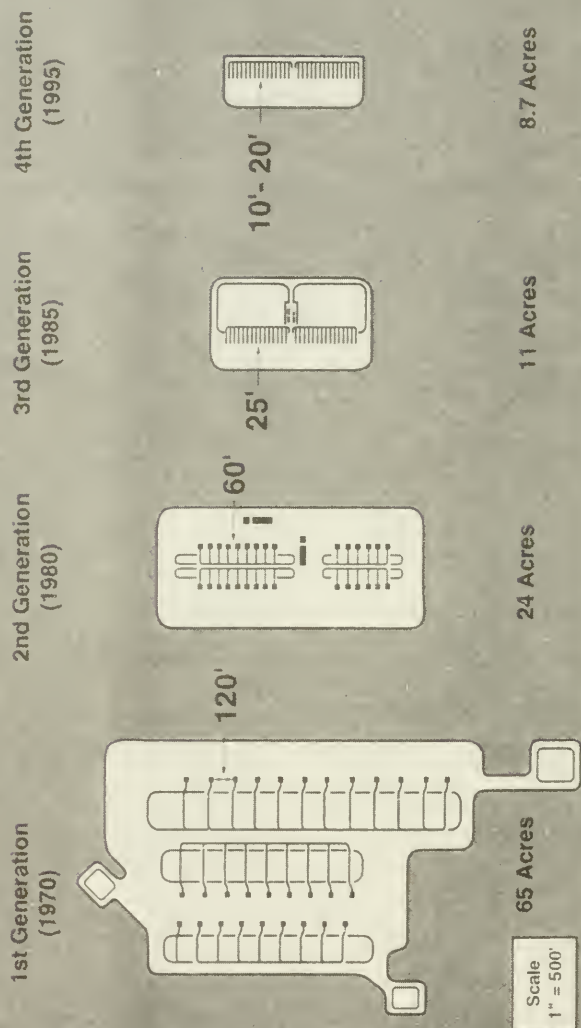
Now let's tie in the water availability question. The secondary benefit of the physical character of the gravel deposits is they can be developed in accordance with these Guidelines in a manner that also provides adequate water to support an oil field. The USFWS Guidelines recommend that in large braided rivers deep holes be excavated in the inactive floodplain and allowed to fill with water. After mining, these pits can then be connected to the active channels to provide deep water fish habitat. Proper placement of these mine sites will also then provide sufficient year round water for oil field support. The Alaska Department of Fish and Game also supports these recommendations and stipulated these guidelines be used in mine site location, design, operation, and rehabilitation.

Thank you for the opportunity to appear before you today.

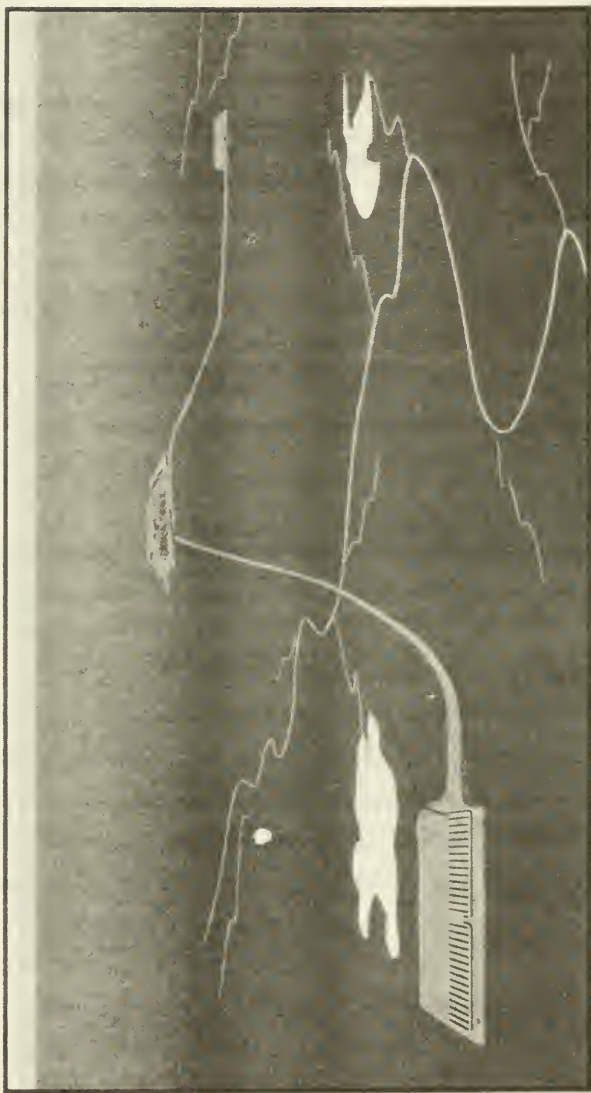




The Evolution of a Drillsite - 1970 to Present



Conceptual Facility Layout - Production Phase 1002 Area of the Arctic Slope



**Testimony of Judith Brady
Executive Director
Alaska Oil and Gas Association
Anchorage, Alaska**

on

**Leasing of the Coastal Plain
of the Arctic National Wildlife Refuge
for Oil and Gas Exploration and Production**

**Before the
United States House of Representatives
Committee on Resources**

Washington, D.C.

August 3, 1995

My name is Judith Brady, and I am the Executive Director of the Alaska Oil and Gas Association (AOGA). Thank you for the opportunity to present testimony on leasing the coastal plain of the Arctic National Wildlife Refuge (ANWR) and the inclusion of leasing revenues in the Budget Reconciliation. AOGA is a trade association whose 18 member companies account for the majority of oil and gas exploration, production, transportation, refining and marketing activities in Alaska. The oil and gas industry makes a very significant contribution to the economies of the State of Alaska and the nation, both directly in the form of taxes, royalties, and jobs and indirectly in the form of goods and services purchased by the industry.

AOGA strongly supports legislation allowing Congress to open the 1002 Area of ANWR to oil and gas competitive leasing, exploration, development and production under reasonable operational and environmental conditions.

The majority of Alaskans support opening the Arctic Coastal Plain to oil and gas exploration and production, including the State of Alaska, the Alaska Legislature, the North Slope Borough and the Alaska Federation of Natives.

My statement today will focus on three topics; current North Slope operations, minimization of environmental impacts; and economic benefits of development of the 1002 Area, both to the State of Alaska and the nation. But first, it is important to restate that the 1002 Area was specifically set aside by Congress apart from the Wilderness area in ANWR not because of any unique biological or aesthetic qualities, but because of its outstanding petroleum potential. This tremendous resource can be developed without compromising the environmental values of the area. Oil development and wildlife can and do coexist in harmony on Alaska's North Slope today. AOGA urges the Committee to review the geologic potential of the 1002 Area, the environmental record on the North Slope, economic benefits from development, and energy needs for today and tomorrow.

Responsible North Slope Operations

After more than four decades of exploration and development on Alaska's North Slope, the industry continues efforts to simplify facilities, streamline operations and pursue advances in technology. A philosophy of continuous improvement and commitment to environmental excellence has allowed the Alaskan oil and gas industry to build a record of successes on which to base future developments. The lessons learned at Prudhoe Bay will allow the 1002 Area to be developed and produced responsibly and cost-effectively with technical integrity and minimal environmental impact. The industry has learned that environmental sense and business cents are inextricably linked. Technical advances in arctic drilling, construction, and operating practices in the past 40 years have dramatically reduced industry's "footprint" on the tundra, minimized wastes produced, and continued to ensure use of the land by both resident and migratory wildlife.

In the 1970's, a production pad covered 40 acres and wells were spaced as much as 100 feet apart. Drilling wastes were disposed of in reserve pits, in compliance with environmental regulations in place at the time. Wells were drilled and pipelines were built using gravel pads. Bottom hole locations for wells often extended 1.5 miles or more from a surface location.

Today on the North Slope and potentially in the 1002 Area, exploratory wells are drilled and pipelines are built from ice pads and roads that melt in the spring leaving little trace. Wells are clustered and spaced as close as 10 feet apart on 10 acre production pads, a 70 percent reduction since the 1970's. New and innovative waste management techniques have eliminated surface disposal or "reserve pits" for drilling wastes. Extended reach drilling now enables recovery of oil reserves as far as three miles away from a single surface location. Under a full development scenario, the pads, roads and pipelines associated with oil production would directly affect 5,000 to 7,000 acres of the Arctic Coastal Plain.

Minimal Environmental Impact

The vast majority of the 19 million acre Arctic Refuge will remain untouched if the 1002 Area is opened for competitive leasing. Less than one percent of the 1.5 million acre 1002 Area would be affected. The area directly affected by oil and gas development in ANWR would be equivalent in size to that of Dulles International Airport in Washington, D.C., in an area approximately the size of South Carolina.

North Slope operators have gone beyond regulatory standards with innovative practices and new technology to ensure protection of the Arctic environment. The industry looks at the long-term environmental impacts of its daily activities and searches for ways to further reduce waste, prevent spills, and protect wildlife and habitat.

Studies conducted on the North Slope by industry, government agencies, and independent groups have shown that environmental impacts from development have been minimal. Long-term environmental studies target every facet of operations from exploration through lease closure. Wildlife and habitat studies help identify sensitive areas and seasons so that disturbances can be avoided or minimized - the primary means of protecting wildlife and habitat. Wildlife use of areas near facilities and transportation corridors is carefully monitored. Rehabilitation projects are designed to enhance the value of sites no longer in use and provide wildlife habitat.

Wildlife populations continue to flourish within the North Slope oil fields. There has been no discernible effect on regional distribution, migration patterns, calving success, herd size, productivity, or other biologically important characteristics. Caribou from the Central Arctic Herd (CAH) and Porcupine Caribou Herd (PCH) move freely through the oil fields. In fact, the population of the Central Arctic Herd has increased from 3,000 animals in 1972 to more than 23,500 today.

Similar conclusions have been reached regarding waterfowl and shorebirds. Studies show that the same number of species and the same number of birds within the developed area of Prudhoe Bay as in similar undeveloped areas. The grizzly bear and polar bear populations are healthy and increasing. After 40 years of activity, there are no scientific studies (including those conducted by the regulatory agencies and academic institutions) that have ever documented a population decline of any species in response to arctic oil field operations.

Economic Benefits to the Nation and to Alaska

Oil production from Alaska's North Slope currently averages about 1.6 million barrels per day, accounting for nearly 25 percent of all domestic production. Oil development on Alaska's North Slope has provided hundreds of billions of dollars to the Alaska and U.S. economies - \$1.3 billion in fiscal year 1994 alone. By comparison, the state's second-largest revenue generator, commercial fishing, brought in \$44.8 million in 1994, less than 3 percent of the State's income.

Development of the 1002 Area will provide much-needed jobs for Alaskans and all Americans alike. The oil and gas industry provides thousands of direct and indirect jobs in Alaska. According to the University of Alaska, Institute of Social and Economic Research, oil revenues account for one in every three jobs in the State. According to the Alaska Department of Labor, oil producers may experience a decrease of 20 percent or more in 1995 over 1994. In Alaska, employment in the last year has decreased more than 18 percent, and the combined downturn in support industry jobs will average 10 percent. Since 1982, over 450,000 jobs -- more than half of all the jobs available in the U.S. petroleum industry -- have been lost. Government estimates show that at least 250,000 jobs would be created as a result of 1002 Area development. Private sector studies put the total as high as 735,000 jobs in all U.S. sectors.

Economic benefits to the United States could be significant. The U.S. Department of Interior has stated that net national economic benefits from ANWR development could reach a staggering \$325 billion. In May 1995, the U.S. imported \$11.4 billion worth of oil and in the next five years, the U.S. could be importing more than 60 percent of its daily petroleum consumption. At one million barrels per day, new production from the 1002 Area could increase the U.S. GNP by more than \$50 billion by the year 2005. The nation could save \$14 billion per year in imports and reduce the trade deficit.

Of the \$1.89 billion in unrestricted revenue that the State of Alaska expects to collect this year, \$1.58 billion - or 84 percent - will be from oil and gas. Just about \$5 of every \$6 of available state revenue comes from oil and gas, not including royalties deposited in the Permanent Fund. Alaska revenue forecasts show that petroleum revenues will continue to dominate state revenues for the next five fiscal years. However, despite continuing efforts by industry to increase production through enhanced recovery and addition of smaller fields adjacent to the producing fields, North Slope production has been declining since 1988.

The geologic potential and economic benefits of the 1002 Area, by anyone's estimate, are significant. The ANWR Coastal Plain represents the nation's best onshore prospect for major new oil discoveries. In its April 1991 report entitled *Overview of the 1991 Arctic National Wildlife Refuge Recoverable Petroleum Resource Update*, the U.S. Department of the Interior revised its estimate of the likelihood that the coastal plain of ANWR contains at least one economically viable oil field to 46 percent, a considerable increase from its 1987 estimate of 19 percent. The Department of Interior reported that there is a 95 percent probability that ANWR contains at least 615 million barrels of oil and a 5 percent probability that it contains at least 8.8 billion barrels. The General Accounting Office reviewed and concurred with the Interior Dept. estimate in 1993. By comparison, the supergiant Prudhoe Bay oil field is expected to yield 13 billion barrels.

Opponents argue that the yield will be only a 200 day supply of oil. This assumes that the 1002 Area will be the country's only source of oil. It is more realistic to examine potential production as one million barrels per day for the next twenty years, contributing 12 percent of current domestic production, enough to provide all the gasoline used by 14 percent of America's automobiles. Using the American Petroleum Institute (API) estimate of reserves at 15 billion barrels, production from the 1002 Area could last for 25 years, peaking at about 2 million barrels per day and meeting nearly 33 percent of the current U.S. daily production.

Potential production from the 1002 Area is critical given the decrease in domestic production in 1994 to 6.6 million barrels per day, the lowest annual level since 1954. Domestic crude output has fallen 1.5 million barrels per day since 1980 levels, while domestic consumption has increased 3.4 percent. U.S. demand is continuing to increase rapidly and is now at 17.7 million barrels per day. Even with increased conservation, oil will still provide 38 percent of the U.S. energy demand by the year 2030.

Facilities built to transport petroleum resources from the 1002 Area could provide the infrastructure to allow development of nearby marginal fields on state and federal lands. Development of the 1002 Area could also help ensure the long term operation of the Trans Alaska Pipeline System (TAPS).

A Look Into the Future

Although there are many views of what ANWR development will be, no one can predict the petroleum potential or the nature of development until the area is leased and explored. Development in the 1002 Area will depend on the subsurface geology and the surface environment. The dimensions of the field and the characteristics of the reserves will dictate surface development.

One certainty about future development in the 1002 Area is that it will provide another opportunity to expand existing technology and explore new and innovative ways to develop resources to meet today's growing energy needs without compromising the environment for future generations.

What is known is that environmental impacts would be avoided and minimized to the maximum extent practicable. Low-impact vehicles will be used for tundra travel. Exploration would be completed from ice pads and ice roads that melt leaving little trace in the spring. Production and transportation facilities will be consolidated. Wells will be clustered on small pads and drilled directionally. Service areas for contractors will be reduced 95 percent. Pipelines will be elevated and separated from roads, if there are roads. Used drilling fluids would be injected into subsurface formations eliminating the need for surface disposal in reserve pits. Facilities will be designed halon-free. Comprehensive spill prevention measures, extensive recycling programs, and environmental audits will be in place. Air and water quality will be preserved.

Facilities will be designed and constructed to reduce direct habitat impact and accommodate important wildlife habitat and migration routes. The wilderness quality of the Refuge will not be reduced. Caribou will still follow migration routes and calve on the coastal plain. Wolverines, grizzly bears, wolves, moose, Dall sheep, and peregrine falcons will still use the Wilderness area. Musk oxen and wolves will continue to thrive. Polar bear dens will remain fully protected under the many local, State, national and international treaties and agreements on marine mammals. Millions of migratory birds will nest and feed without adverse impact, including snow geese, Brant, tundra swans, and eiders.

Conclusion

The key to this issue is balance. AOGA urges the members of the Committee to weigh the temporary aesthetic impacts and the economic benefits to reach a careful balance.

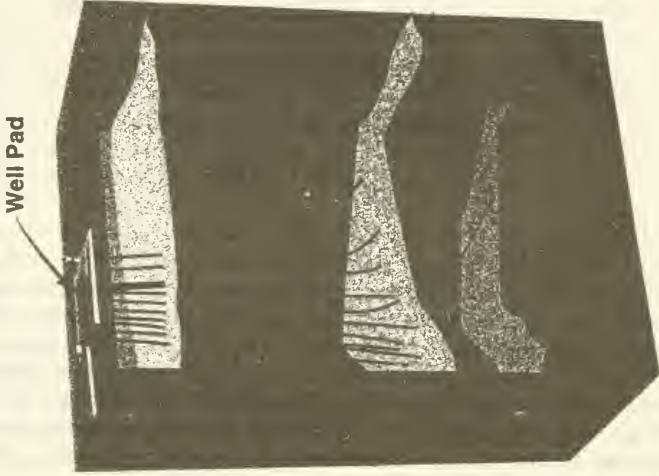
If the resources of the 1002 Area are not developed in a timely manner, the State, the U.S. and the native landholders will suffer.

The decision to allow multiple use in the 1002 Area is not a mutually exclusive decision for energy or environment. Arctic oil and gas operations in Alaska are the most environmentally safe in the world. Nowhere else has so much oil been produced with such minimal environmental impact.

The Alaska Oil and Gas Association strongly supports the opening of the ANWR Coastal Plain to oil and gas competitive leasing, exploration, development, production and transportation under reasonable operational and environmental conditions. Such development would enhance national energy security, provide income to both the federal and state governments and would generate jobs and business opportunities for Alaskans as well as for residents in all 50 states.

Directional Drilling

A 10-acre surface pad can now support wells that can drain a reservoir area of 6000 acres.



Testimony
to the
House Resources Committee
by
Roger C. Herrera
Consultant to Arctic Power
1 August, 1995

Mr. Chairman,

Arctic Power is a not-for-profit, grass-roots, citizens organization, with headquarters in Anchorage, Alaska, which has the sole objective of opening the coastal plain of the Arctic National Wildlife Refuge (ANWR) to responsible oil and gas leasing. Arctic Power has approximately 12,000 individual members in Alaska and the Lower-48 states, and is non-partisan. I am a consultant to Arctic Power and have prepared this testimony from a background of over 25 years living in Alaska including many years spent on the North Slope and in ANWR.

I appreciate the invitation to testify before you today and wish to concentrate my remarks on a somewhat quizzical look at positions taken by many who are opposed to the opening of the coastal plain to leasing. This is done not with any malice, but to point out some of the inconsistencies of their deeply held positions. One has to hope that there is some way for both sides to win on this issue. Such an outcome has prevailed in the past, so it should be achievable in the future.

Benefits of Alaskan oil

When OPEC initiated its first oil embargo in 1973, the resulting shock to our economy and our national security was perceived to be extreme and over the succeeding years, including the second oil supply manipulation in 1979, OPEC countries milked the United States of an extra \$4 trillion, which a constant oil price and a normal market would have denied them.

The problem to the U.S. would have been even more critical but for the fact that the massive Prudhoe Bay Oil Field had been discovered on the

North Slope in 1969. In 1973 its development was being held up by environmental groups who were opposed to the construction of the Trans Alaska Pipeline. Their reasons were all too familiar to those of us involved in the ANWR issue - the certain devastation of caribou herds and of Alaska's land environment.

With the onset of the Arab-Israeli War in 1973 it took Congress a matter of months to recognize where the real danger lay and the Trans Alaska Pipeline Authorization Act was passed. History has shown that Congress was right - caribou have flourished and the pipeline has performed with outstanding efficiency. Equally importantly, the knowledge that 1.5 million barrels of Prudhoe oil would soon begin flowing to domestic markets greatly ameliorated the political pressures imposed by the embargo.

A few years later, in 1979, when Iran triggered the second doubling in the price of oil, the reality of Prudhoe Bay oil saved the American economy from crippling impacts. To have been denied 25% of our domestic oil supply because of an incorrect concern for caribou would have been catastrophic at that time. Yet some people are bent on repeating that mistake in the future. As Winston Churchill pointed out, "Learn all you can about the history of the past, for how else can one ever make a guess what is going to happen in the future?"

The Philosophy of Opposition to Opening ANWR

We can now confidently predict that our future dependence on imported foreign oil is unlikely to be less than the present 50% irrespective of our zeal for conservation and alternative energy. We can predict that OPEC will soon regain a monopoly share of the world's oil markets, with all that that implies, and we can suggest that the concerns about the Porcupine caribou are as overstated as similar concerns for other caribou in the past. Furthermore we can expect Alaska's contribution to our domestic oil production to remain about 25% or more because the decline in the rate of North Slope output will be less steep than that of oil from the Lower-48 states.

But must we wait, as in the past, for a third oil crisis before taking legislative action to protect ourselves with ANWR coastal plain oil, or can we learn from history? Just how much research and practical experience is necessary to conclude that caribou habituate easily to benign facilities, such as well pads or pipelines, or that they can calve in an oil field as they do routinely at Kuparuk? Surely there comes a time when the last iota of

risk can be accepted. We do it in every other aspect of our lives - why not with caribou and oil? It is ironic that a great many people are killed every year in their automobiles - a risk which we accept - yet the lesser risk to one Porcupine caribou interacting negatively with a coastal plain oil field, is sufficient in some peoples' minds to deny access to the oil which fuels the vehicle that kills them! Perhaps all that makes sense, but only if we are willing to walk, not drive.

In the same fashion, the Gwich'in Indians in Arctic Village, who are so fearful of oil development on the coastal plain, are quite comfortable with oil development on their own lands where they wish to perpetuate their traditional life style. It is interesting how we selectively embrace change. The Gwich'in want to preserve the past, but with four wheelers for hunting and diesel fueled home heating stoves. No reasonable person can deny them these modern conveniences, but as users of petroleum products their attitude towards the production of oil should be a little more reasoned than it appears to be.

The Gwich'in embraced the concept of producing oil on their own lands, but do not believe that it can be done safely on other lands to the north. No doubt they argue, as do our Canadian neighbors, that drilling on Gwich'in lands or within the range of the Porcupine Caribou Herd in Canada, is different than drilling on the coastal plain which sometimes includes part of the birthing areas of the caribou herd. The Canadian Government didn't worry about that when it was hell bent to find oil its side of the border. It happily allowed wells to be drilled in important, traditional calving areas. Fortunately for the Canadians and the Gwich'in no oil was found on their lands therefore they didn't have to face the consequences - good, bad or non-existent - of the long term production of oil from their areas.

Offshore, in the Beaufort Sea, which some people would argue is a much more hazardous and difficult environment, the Canadians show no hesitation in doing everything they can to establish oil production. One has to conclude that Canada's self-righteous objection to coastal plain development is cynical and hypocritical. They will hugely benefit if they develop their arctic crude and prevent the United States from doing the same. It would be ironic, if, in the future, Washington, Oregon and California imported some of their energy needs from arctic Canada rather than from arctic Alaska.

The criticism leveled at Canada can also be aimed at the Gwich'in Steering Committee - which seems to be composed of white environmentalists - if

only because they have consistently refused every invitation to visit the North Slope and examine the oil field facilities for themselves. The Gwich'in have refused to meet with the Inupiat Eskimos who have had 20 years experience of oil development and have learnt what its true impact is on their traditional culture. Is this refusal predicated by the expectation that the Inupiat's viewpoint might be convincing? Does the old adage apply that, "There are none so blind as those who don't want to see"?

Other Environmental Questions

Why can the National Audubon Society safely produce oil for 25 years from the Paul J. Rainey Sanctuary in southern Louisiana where thousands of Lesser Snow Geese over-winter, while an experienced oil company cannot develop oil on the coastal plain where those same snow geese graze and fatten themselves every fall for their flight to Louisiana? The Audubon Society has already habituated them to responsible development, so what is the problem?

Why can eight National Wildlife Refuges around the nation (including one in southern Alaska) have successful oil operations within their borders, but not a ninth one in northeastern Alaska? Why can the Department of the Interior, with major input from the US Fish and Wildlife Service, spend seven years studying all aspects of the coastal plain, conclude it should be open for leasing, and suddenly determine that the 77 scientists and experts who reached that conclusion, were badly wrong and the area should become Wilderness? So much for science - long live politics!

How can the environmentalists, who oppose the opening of the coastal plain, live with themselves when they know that the 8 million barrels of oil a day we import from foreign countries is produced with often casual regard or even disregard for the environment, and always less environmental protection than would be accorded a barrel of Alaskan oil? This argument is irrefutable to anyone who has seen many foreign oil fields, yet this unnecessary incremental damage to planet earth is apparently of no consequence to anti-ANWR environmentalists.

Indeed it is fair to say that a barrel of North Slope oil has less impact on the environment than any other domestic oil. This is a function not only of the extreme care accorded to the arctic tundra, etc. by the oil producers, but also the fact that an average Alaskan oil well can be expected to produce 2000-3000 barrels of oil per day versus its Lower-48 counterpart which averages 13 barrels of oil a day. Simple mathematics shows that 150-200 wells are required in the continental US to equal the

energy output of one Alaska well. Which is environmentally preferable, one well or two hundred?

If we were logical and really wanted to protect the environment, we would preferentially produce Alaskan oil over all other sources.

Environmentalists are concerned that so few people visit the coastal plain (about 200 each summer) that it diminishes the value of their argument that the area should be set aside for such visitors. They say that when Yellowstone was made the first National Park nobody visited it either, but now it is enjoyed by millions. However the question must be asked, how do people get to Yellowstone or ANWR? Do they walk or do they use transportation which inevitably burns up petroleum products? Can one truly disconnect thinking about visiting a national park and not consider how one gets there?

We all have become blasé about such problems, but a gallon of gasoline is cheap, so who cares? Apparently not the environmentalists.

It is pertinent to consider that probably 99% of the people who have visited Alaska's arctic (the vast majority of whom have thoroughly enjoyed the experience) have done so because of the presence of the Prudhoe Bay oil fields, not their absence. If the environmentalists truly want more people to experience the special qualities of the coastal plain of ANWR, they should encourage an oil field to be developed there. One suspects however, they don't want lots of people to visit ANWR, but prefer to keep it for their own kind who have plenty of money.

What is sad about these arguments is that surely we are all environmentalists now. Short of some goonish villain in a Batman movie, does anyone seriously want to despoil the globe? Or more specifically, is there an Alaskan who is not fully aware of his or her responsibilities towards our environment? I have not met such people.

The Question of Reserves

It does not really matter what the Department of the Interior calculates for oil reserves lying, waiting to be discovered, beneath the coastal plain. Actually, both the U.S. Geological Survey and the Bureau of Land Management, have estimated quite high figures for volumes of produceable oil. So has the National Wildlife Federation and the American Association of Petroleum Geologists. But until exploration wells are drilled nobody will know. In fact, everybody will be wrong.

What is certain is that oil companies are very carefully making their own calculations and those are the only ones that matter. It is the oil companies who will be bidding with hard cash on leases in a coastal plain lease sale, not the federal government. The government will receive its money up front and laugh all the way to the bank (to the great benefit of our budget imbalance). It is the oil companies' money which will be at risk during the exploration drilling phase when expensive winter wells will try to discover the oil they think is there. The caribou, who will have migrated away, and the tundra, which is frozen solid, will not be at risk.

If the wells are successful and large quantities of oil are found we will all benefit with new jobs and a better economy. Then we will know how much oil we have and can plan accordingly. The figures we are using now are honest best guesses or cynical political distortions. Neither are of real use, but both serve some purpose.

Other Thoughts

Occasionally we all have dark thoughts about energy. One hears grumbles at hydro projects, nuclear electricity and the dirt potential of coal, to say nothing of oil. Even solar and wind and ethanol generate strong opposition. We all are great at consuming the stuff and some of us are getting good at conserving it, but neither of those activities creates a single Btu of energy. The State of Alaska has the largest coal reserves and the largest oil reserves of any state in the nation. We are a producer of energy. (We have lots of hydro and wind power too). Our singular responsibility is to worry about how we produce that energy for the greatest good and the least harm, not just for ourselves, who consume little, but for the nation as a whole.

We think we are doing a good job in this regard and over three-quarters of Alaskans are totally supportive of careful development of the coastal plain. Arctic Power represents a sampling of that 75% which includes members of the Gwich'in tribe. We obviously perceive this to be an Alaskan issue, but we fully understand that the right decision on the coastal plain is critical to the whole of America. We hope this committee will make the right decision and allow environmentally good oil to be produced from beneath the coastal plain without detriment to caribou or people.

STATEMENT OF DAVID R. CLINE
ALASKA REGIONAL VICE PRESIDENT
NATIONAL AUDUBON SOCIETY

at the

OVERSIGHT HEARING

REGARDING LEASING THE COASTAL PLAIN OF THE ARCTIC
NATIONAL WILDLIFE REFUGE FOR OIL AND GAS DEVELOPMENT

BEFORE THE HOUSE RESOURCES COMMITTEE

HONORABLE DON YOUNG, CHAIRMAN

AUGUST 3, 1995

Mr. Chairman, members of the Committee. My name is Dave Cline. I'm regional vice president for the National Audubon Society in Alaska. Alaska is my home and I have resided there for 24 years. I very much appreciate you providing us this opportunity to testify on your proposal to lease the coastal plain of the Arctic National Wildlife Refuge for oil and gas exploration and production and the inclusion of the leasing revenues in the budget reconciliation.

The mission of the National Audubon Society is to conserve and restore natural ecosystems focusing on birds and other wildlife for the benefit of humanity and the earth's biological diversity. We currently have about 600,000 members nationwide including 2,600 in Alaska.

Audubon has a long history of involvement in and familiarity with the Arctic Refuge. We supported its establishment in 1960 by President Dwight D. Eisenhower "to preserve unique wildlife, wilderness, and recreation values". Through the Alaska National Interest Lands Conservation Act of 1980 (ANILCA) we worked with the Congress and thousands of Americans to get the refuge more than doubled in size and a portion included in wilderness. Then from 1988 to 1992 we participated in an exhaustive reevaluation of whether or not the Arctic Refuge should be opened to oil and gas development. As you know, after thorough examination of facts on both sides of the issue, the American people sent the Congress a resounding No! Don't develop the Arctic Refuge!

Since ending our debate here in 1992, ongoing wildlife studies have simply confirmed earlier findings that the coastal plain constitutes the biological heart of the refuge. For example, in talking with state biologists and the refuge manager just last week, they reported that 92 percent of calving by the Porcupine caribou herd this last spring was concentrated in the so-called 1002 area, that section of the coastal plain proposed for leasing.

And last fall, more than 300,000 snow geese that we share with Canada, stopped to feed on the coastal plain before proceeding on their long migration to wintering grounds in the south where they are enjoyed by millions of

Americans. Biologists have found the geese extremely sensitive to human disturbance during this critical part of their life cycle.

No reputable wildlife biologist that I know feels that placing an industrial oil complex in the heart of the refuge's coastal plain habitats will not seriously disrupt such spectacles of nature so important to so many people.

In fact, recent findings of the Alaska Department of Fish and Game and National Biological Service conclude that avoidance of, and fewer movements within, the Prudhoe Bay oil field complex by female caribou of the Central Arctic herd are ostensibly in response to the dense network of production and support facilities, roads, and above ground pipelines, and the associated vehicular and human activity. Impaired access to this area constitutes a functional loss of habitat. Moreover, in their 14 years of radio tracking caribou in this herd, not a single radio-collared caribou is known to have passed entirely through the main oil field in either direction.¹

In a 1994 report, Dr. Ray Cameron of the Alaska Department of Fish and Game reported a decline in the growth rate of the Central Arctic caribou herd. Construction of the Milne Point road system displaced maternal females and their calves. The high frequency of reproductive pauses among female caribou exposed to disturbance this way may be attributed to their relative inability to compensate for the metabolic costs of milk production, Cameron concluded.²

State and federal wildlife agencies have also confirmed the vital importance of the traditional calving ground on of the Arctic Refuge coastal plain to the viability of the Porcupine caribou herd. Use of this area favors calf survival, principally through lower predation risk and improved foraging conditions. State and federal wildlife biologists are in agreement that if petroleum

¹ Cameron, R.D. et al. 1995. Abundance and movements of caribou in the oilfield complex near Prudhoe Bay, Alaska. *Rangifer*, 15(1) pp 3-7.

² Cameron, R.D. 1994. Distribution and productivity of the Central Arctic caribou herd in relation to petroleum development: case history studies with a maternal perspective. Federal Aid in Wildlife Restoration Research Final Report, Alaska Department of Fish and Game, Juneau, Alaska. 18 pp.

development displaces calving from the coastal plain, calf mortality likely will increase.³

I have enjoyed the good fortune over the past 24 years of becoming intimately familiar with the Arctic Refuge. As a wildlife biologist working for the U.S. Fish and Wildlife Service in the early 1970's, I participated in a team study of the refuge as required by the Wilderness Act. Our assignment was to determine its suitability for inclusion in the National Wilderness Preservation System. It was one of most enjoyable and easiest assignments of my career. We determined that the entire refuge - including its coastal plain - qualified as wilderness, and recommended that it be designated such by Congress.

Over the ensuing years I have come to appreciate the Arctic Refuge together with the adjoining Iuvuaik National Park in Canada as representing superlative wilderness sanctuary for wildlife anywhere in the circumpolar Arctic. They lie in one of the most remote and primitive wild regions left on earth.

Having camped, hunted and fished in the Arctic Refuge, and walked across its coastal plain from the Sadlerochit Mountains to the Beaufort Sea, I know from personal experience that it provides unexcelled opportunities for solitude, and primitive and unconfined outdoor adventure. Its wildlife is readily observable because of the open landscapes and limited human presence. The refuge constitutes the only wildlife refuge in North America that protects a complete spectrum of Arctic landscape features and wildlife populations in near pristine condition. And, as the Department of Interior concluded in its resource assessment of 1987, the coastal plain is the most biologically productive part of the entire refuge, and center of wildlife activity in the unit.

A diversity of wildlife in an incomparable wild setting is what makes the Arctic Refuge a special place to conservation-minded Americans. We must realize that it was established by law to:

³ Whitten, K.R., et al. 1992 Productivity and early calf survival in the Porcupine caribou herd. *J. Wildlife Mgt.* 56(2):pp 201-212.

1. Conserve fish and wildlife populations and habitats in their natural diversity;
2. Fulfill international treaty obligations of the U.S. with respect to fish, wildlife and their habitats;
3. Provide opportunities for continued subsistence uses by local residents;
4. Ensure water quality and necessary water quantity within the refuge.

Nothing is said about oil in these purposes! Oil field development is incompatible with such conservation purposes.

As a member of Alaska Governor Tony Knowles' Oil and Gas Policy Council, I've been provided the opportunity to sit at the table with highly knowledgeable and articulate leaders of the oil industry in Alaska - ARCO, BP Exploration and EXXON. They represent companies whose business is finding and selling oil for maximum profits to their stockholders. And they are very, very good at it.

Much of the council's debate is focused on finding incentives for development of smaller and more marginal oil fields on Alaska's North Slope by making Alaska's tax and royalty regime more globally competitive.

And just what do these North Slope oil reserves consist of? According to a July 2, 1995 Fairbanks Daily News Miner article entitled, "No Shortage at Prudhoe Bay", "information provided to the state's Oil and Gas Conservation Commission by the Alaska oil industry reveals "Prudhoe Bay, the nation's oil field remains the mainstay of Alaska's Oil Patch and is now expected to provide nearly 200,000 barrels a day as far into the future as the year 2030. Other overlapping fields, containing known oil reserves at different depths, enhance the North Slope's long-term value".⁴

⁴ O'Donoghue, B. 1995. No Shortage at Prudhoe: Oil reserves will keep going and going, debate reveals. Fairbanks Daily News Miner. July 2, 1995.

Richard Fineberg, an independent oil policy consultant from Fairbanks characterizes the situation this way: "The ten year trend (in North Slope oil fields) is like the Energizer Bunny. It just keeps going and going and going."

Mr. Mike R. Bowlin, President and CEO of ARCO, confirmed the importance of North Slope oil reserves to his company's future in a speech delivered in Anchorage on June 25, 1995: "This state [Alaska] figures prominently in all our plans for the future. We have huge reserves yet to be produced on the North Slope" (emphasis added). "We expect to invest \$1 billion in Alaska over the next five years. Most of that - \$850 million - is allocated to existing fields. The rest is earmarked for exploration and delineation...We're going to concentrate on high quality projects in areas where infrastructure is readily available, or can be made available at reasonable cost. Areas near existing fields will get a lot of attention.", Mr. Bowlin concluded.⁵

And in a report presented by OXY USA, Inc. to the state's Oil and Gas Policy Council on June 19, 1995, entitled, "Unlocking the Heavy Oil Potential on Alaska's North Slope", company executives stressed the importance of royalty relief as an incentive to develop some 26 billion barrels of oil sands in-place in oil fields such as West Sak, Kuparek and Milne Point. YES, 26 BILLION BARRELS! That's more than the most widely optimistic estimates of light oil reserves at Prudhoe Bay and the Arctic National Wildlife Refuge combined!⁶

Although I don't want to underplay the technological difficulties and economic constraints in extracting this heavy oil, we do know that it is there, that the technology is proven to extract it, and that it is owned by the people of Alaska. Ten percent of the production at Milne Point is already coming from shallow oil sands.

Not to be overlooked in this discussion is the fact that the North Slope gas owners (principally ARCO, BP and EXXON) are sitting on at least 37 trillion cubic feet of proven natural gas reserves (Department of Energy figures).

⁵ Bowlin, M.R. 1995. ARCO and Alaska: partners for the future. Speech presented in Anchorage, Alaska on June 25, 1995.

⁶ Unlocking the heavy oil potential on Alaska's North Slope. Presentation by OXY USA Inc. before the Alaska Oil and Gas Policy Council on June 29, 1995.

Yukon Pacific Corporation is positioned to deliver this natural gas to Asian markets in liquid form. Building the Trans Alaska Gas System (TAGS) will cost \$14 billion, create 10,000 construction jobs in Alaska and 600 permanent workers, and contribute a minimum of \$400 million annually to the state treasury for decades.

Meanwhile, the 1995 National Assessment of US Oil and Gas Resources concludes that "assuming existing technology, there are approximately 110 billion barrels of technically recoverable oil onshore and in US waters. This includes measured (proved) reserves, future additions to reserves in existing fields, and undiscovered resources."⁷

So why are we proposing to invite both US and foreign owned oil companies into a flagship wildlife refuge and wilderness area when they haven't even developed what they've got? It simply doesn't make sense!

It's not like Alaska and the nation are in some sort of energy emergency that requires the sacrifice of our nation's natural treasures. And it's not like Alaska's economy is doomed if we don't exploit the refuge. After all, every Alaska citizen receives an annual dividend check of almost \$1,000 from earnings on our \$15 billion Permanent Fund. And unlike other states, we pay no state income or sales tax to fund essential government services like schools, police, roads, harbors and wildlife conservation.

So I ask you, Mr. Chairman and members of this committee, What is really going on here? It just doesn't add up. The worse case scenario that I can see coming out of this proposal is the sacrifice of a national treasure, the Arctic National Wildlife Refuge, to sell off our national energy assets at rock bottom prices to foreign consumers. It's the height of folly to suggest that this is in the long term national security and economic interest of the United States.

Exploitation of the Arctic Refuge was slipped into the budget reconciliation while denying Americans the opportunity to fully debate and understand the consequences of the proposed action. Legislation is necessary to do that.

⁷ US Geological Survey, National Oil and Gas Resource Assessment Team. 1995. National assessment of United States oil and gas resources. Circular 1118.

Where is the legislation to open the refuge and what does it say? The American people deserve to know.

An editorial in The Oregonian of June 26, 1995 summed the issue up best:

"Rushing into oil development along Alaska's north slope in the wildlife refuge is not in the U.S. national interest..."

"...opening the wildlife refuge in the absence of urgent need is premature and wasteful and feeds a national addiction."

"For a country without a resolute energy policy, tapping the wildlife refuge's oil reserves is the moral equivalent of handing a bottle of booze to an alcoholic. It is an invitation to go on another binge. It cancels the visit to the treatment center."

"Let's take the cure, not find excuses to dodge it."⁸

The battle to save the last four percent of the great American wilderness has now reached the shores of the Arctic Ocean. It can go no further. It's not the mark of a great nation, particularly at this point in history, to choose exploitation of one of its finest wildlife refuges and wilderness areas to continue the wasteful practices that even our fiercest economic competitors are abandoning.

Such short-sighted, piecemeal decisions only set the stage for an energy crisis of our own making, thus simply postponing the day when the United States must change course in its production and use of energy. Such change will prove essential not only to meet the needs of its citizens but to stay competitive in world markets and help save the planet. Europe and Japan, although lacking an abundance of cheap domestic oil like the U.S., have already developed economies that function well in a high energy cost environment. They have done this by reducing waste, insisting on greater

⁸ The Oregonian. No drilling in Artic Refuge. Editorial of June 26, 1995.

energy efficiency and turning to alternative energy sources, primarily renewables.

Given the disastrous state of this country's energy policy, our over-dependence on oil and deplorable waste of oil, there is simply no justification for opening the Arctic Refuge to exploitation. The United States should instead develop a sustainable energy economy for the future, one that is efficient, clean, economical, renewable and home grown. This would save consumers hundreds of billions of dollars, while creating new jobs, strengthening our national security and protecting our environment.

Furthermore, it would make exploiting sensitive ecosystems like the Arctic Refuge totally unnecessary and insure that such special wild places will continue to be there for the use and enjoyment of our children.

I know from having served on the US delegations to the eight nation Arctic Environmental Protection Strategy and its international working group on the Conservation of Flora and Fauna, that our Arctic neighbors are looking to the US for leadership in the conservation of Arctic biodiversity, pollution abatement and clean up, and an expanded system of protected areas. This development proposal for the Arctic Refuge leads us in the wrong direction. The world's community of nations is looking to the United States, the wealthiest and strongest nation on earth, to provide leadership in safeguarding the future of our planet. How we resolve the dispute over the future of the Arctic Refuge in Alaska will say a lot about whether we can rise to the challenge or not. It will also say a lot about our sense of values.

So I see a golden opportunity for you to referee a win-win situation on this contentious issue Mr. Chairman, in the best Alaskan tradition of compromise. I challenge you to start by withdrawing leasing of the Arctic Refuge from the budget reconciliation. Instead, do what you can to help this great nation reduce its waste of oil, while allowing Alaska to get the best prices from its bountiful, proven reserves over the longest period of time. Simultaneously, allow the Arctic National Wildlife Refuge to continue providing natural beauty and living

bounty to the Gwitch'in Indians, and the values cherished by millions of other Americans as important to the qualities of their lives.

News from: Audubon

NATIONAL AUDUBON SOCIETY 950 Third Avenue, New York, N.Y. 10022

NO COMPARISON:

ENERGY DEVELOPMENT IN THE ARCTIC NATIONAL WILDLIFE REFUGE

VS.

DRILLING ON AUDUBON'S RAINEY SANCTUARY

NEW YORK, June 5, 1987 -- The controversial plan to open up the Arctic National Wildlife Refuge to oil and gas development is in no way justified by the existence of small-scale natural gas production on a National Audubon Society wildlife sanctuary in Louisiana.

The National Audubon Society strongly opposes oil and gas development on the coastal plain of the Arctic National Wildlife Refuge, a national treasure of our federally protected lands.

"We are not blindly opposed to energy development on federally protected lands, and expect that 95 percent of oil and gas resources on these lands eventually will be tapped," said National Audubon President Peter A.A. Berle. "What we oppose is industrial activity in the Arctic National Wildlife Refuge because it would destroy the unique wilderness quality of the coastal plain forever. If Audubon owned undeveloped land on Alaska's North Slope, we would never lease out any of those holdings to oil and gas development."

Possessing extremely diverse wilderness and wildlife, the 100-mile coastal plain of the the Arctic Refuge is the only place on the North Slope that still is fully protected from development. The National Audubon Society believes that wilderness designation by Congress is the best way to permanently protect the Arctic National Wildlife Refuge, unless additional scientific evidence confirms that petroleum extraction can be compatible with the refuge's fragile ecosystem -- and only if the presumed oil beneath the coastal plain can meet the nation's immediate and long term energy needs.

Despite Audubon's opposition to drilling in the Arctic refuge, the Society's operation of a few natural gas wells on its Paul J. Rainey Sanctuary in Louisiana has been cited by development advocates as "proof" that massive drilling can take place in the Arctic ecosystem.

"In terms of size, fragility of ecosystems, extent of drilling and wilderness character -- the Arctic and Louisiana refuges are completely different," said Mr. Berle. "You can't compare the limited natural gas production that has occurred at the Rainey Sanctuary -- a marsh land off the Gulf of Mexico -- to the development that is being proposed for the 1.5 million acre coastal plain of the Arctic Refuge. The kind of exploration and development planned for the Arctic coastal plain would be on a massive scale with a far greater potential to disrupt wildlife and habitat."

(more)

The 26,000-acre Rainey Sanctuary is located on the western shore of Louisiana's Vermilion Bay, some 25 miles south of Abbeville. The sanctuary has eight miles of frontage on the Gulf of Mexico and is accessible only by water.

J.P. Myers, Audubon's Senior Vice President for Science, pointed out that much more scientific data is available on Rainey's ecosystem compared to the Arctic's.

"Scientific understanding of the Arctic ecosystem is in its infancy," Dr. Myers said. "Given how sketchy information on the Arctic is, it's difficult to judge long-term effects of energy development on the ecosystem. In contrast, the temperate marsh ecosystem of the Rainey Sanctuary is well-studied, and we are better able to predict what will happen to the environment."

The production of natural gas at Rainey poses less of a risk to the environment than oil production would at the Arctic refuge, noted Dr. Myers. "Natural gas is probably the most environmentally benign fossil fuel that we have available to us. The large-scale oil development that is being proposed for the Alaskan refuge is more risky because there's always the chance of a major oil spill."

In Anchorage, David Cline, Audubon Regional Vice President for Alaska, emphasized that the extent of drilling at Rainey is small compared to what full development of the Arctic Refuge's coastal plain could encompass.

"At Rainey, we're talking about 30 wells that have been drilled over a period of three decades (only two wells are currently operating). The small operation at Rainey bears no resemblance to what is being proposed in the Arctic, where a major oil field could mean the construction of as many as 2,500 wells," said Mr. Cline.

Brock Evans, Audubon's Vice President for National Issues, warned that one of the most destructive features of development in the Arctic would be the construction of roads. "No matter how carefully done, oil field development is a large scale industrial activity. It requires huge quantities of scarce fresh water for ice roads or gravel in order to build networks of roads, drill pads, airports and seaports."

"The long-term environmental impact would be devastating to the fragile Arctic ecosystem," said Mr. Evans. "In addition, noise from heavy machinery operating around the clock would displace wildlife, including the huge Porcupine caribou herd that uses the coastal plain as a calving area."

(more)

In detail, here are several major reasons why drilling in the Arctic National Wildlife Refuge should not be compared to activity at the Rainey Sanctuary:

1. Fragility of ecosystems: The Arctic ecosystem is much more fragile than that of Rainey's. The semi-tropical climate at Rainey provides a year round growing season so the marsh soils are very productive. Any damage to Rainey's marsh lands would be repaired quickly by nature. Most transport activity at Rainey is done via existing canals and waterways. In the harsh Arctic climate, however, the tundra is underlain by permafrost which makes the environment especially sensitive to any industrial intrusion. Energy development and the road construction that accompanies it would cause irreparable damage to the fragile Arctic environment and would result in permanent scarring of the landscape.
2. Major differences in scale of development: Exploration and development at Rainey has occurred on a very limited basis. Over the past three decades, natural gas drilling at Rainey has affected only 400 acres of the 26,000-acre sanctuary. On the other hand, massive exploration and development is being proposed for the entire 1.5 million-acre coastal plain of the 19-million-acre Arctic National Wildlife Refuge. Although the drilling pads in the Arctic would cover 1,200 to 1,600 acres, 357,000 acres could potentially be influenced by development.
3. Monitoring Controls: Given the inevitable political-economic pressures and the major differences in scale of development, drilling at the Arctic refuge would not be as strictly monitored as it is at Rainey. All operations on Rainey are planned by Audubon's wildlife manager, in cooperation with an engineer, geologist and the petroleum company, to map out the access route that will cause the least disturbance to the marsh. Through the leasing agreement, Audubon has the authority to stop any activity on the sanctuary that is potentially damaging to the environment. Audubon oversees all cleanup activities at Rainey to ensure the marsh lands have been properly restored.
4. Wilderness character: The Arctic National Wildlife Refuge offers diverse wilderness and spectacular scenery in one of the world's last pristine animal ranges. The coastal plain of the refuge is the only place on Alaska's North Slope that still is fully protected from development. Although the Rainey sanctuary is home to a wide variety of bird and animal species, it is not wilderness. Long before Audubon obtained the sanctuary in 1924, it was criss-crossed with man-made canals and was used extensively for commercial water transport.

According to Lonnie Lege, manager of Rainey, drilling at the sanctuary is conducted in a way that does not compromise proper environmental management of the refuge.

"I have the power on the spot to halt any activity that is taking place that is not environmentally sound," Mr. Lege said. "We keep a close watch on drilling to correct human error and there has never been a blow-out or oil spill on the sanctuary. Extra safety precautions, such as concentric levees around drilling sites, have kept environmental damages to a minimum," he added.

(more)

-4-

Audubon monitors all cleanup activities after companies have completed drilling and production at a well and its adjacent area. Mr. Lege makes sure that companies restore drill sites and surrounding marsh lands as near to their natural state as possible.

Mr. Lege said that by proper placement of canals, levees, and a system of wiers (low dams with spillways), the sanctuary's habitat has actually been improved for many species of wildlife.

On Rainey, there have been 14 producing gas wells, one oil well and 15 unproductive gas wells drilled. No new drilling has occurred since 1983, and two producing gas wells remain.

History of Audubon's Involvement in Gas Drilling

The story of how Audubon became involved in gas drilling is a complicated one. The Paul J. Rainey Sanctuary was donated to Audubon in 1924, but the original donors of the sanctuary retained a major part of mineral rights beneath the refuge. Under Louisiana law, a partial owner of mineral rights cannot refuse access to any other owner of similar rights over the surface of the land.

Audubon therefore was presented with a choice of allowing the drilling to occur with the society's safeguards in place, or with no controls at all. Audubon entered into a lease with the other owner of the mineral rights in order to control drilling activities on the sanctuary. Since the 1950s, Audubon has been monitoring all exploring, drilling and production activities on the Rainey sanctuary.

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For more information, contact:

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Gwich'in Steering Committee

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Statement of Sarah James
of Arctic Village, Alaska

before the

House Committee on Resources

on the

Arctic National Wildlife Refuge

August 3, 1995

"In no case may a people be deprived of its own means of subsistence."

-- International Covenants on Human Rights

"Money doesn't last long. Caribou last forever."

-- Peter Tritt, Gwich'in Elder

Sheluk nani. (All my relations.)

My name is Sarah James. I am Netsi Gwich'in from Arctic Village, Alaska. Thank you for inviting me to speak for my Gwich'in people. I am here with the direction of the Elders of the 15 Gwich'in villages in northeast Alaska and northwest Canada. For a long time some members of Congress have tried to ignore the Gwich'in on this issue of oil development in the Arctic National Wildlife Refuge. Maybe they think we are not important enough to interfere with oil development. But we are the people the most at risk because we rely on the Porcupine caribou herd for our economic and cultural survival.

Every summer lots of people from Congress come to Alaska to see Prudhoe Bay and to visit the oil companies. They fly over the Refuge and go to Kaktovik, but they never stop in Arctic Village. We always invite them to come to Arctic Village so we can show them our way of life. We are hospitable people but they always say they have been told it's too hard to get to our village. That's not really true because you have to fly right over Arctic Village on your way to the North Slope. We have a good airport big enough for your plane.

My people have lived on this land for thousands of years. You cannot understand this issue by flying over the refuge and meeting only with people who want oil development. So today I invite you all to stop in Arctic Village during your visit to Alaska this summer. You need to see our homeland and listen to the concerns of my people too before you decide how to vote on this issue.

What happens to the Arctic Refuge is not only an environmental issue. It is a human rights issue too, because the survival of the Gwich'in culture depends on the protection of the birthplace of the Porcupine caribou herd. It is about the basic tribal right we have to carry on our traditional ways.

The Gwich'in are *caribou people*. Our ancestors lived with the caribou right where we are today. The caribou provides 75 percent of the protein for my village. But it is not just what we eat, it is who we are. Our whole way of life as a people is tied to the Porcupine caribou. It is in our language, and our songs and stories. I grew up hearing all the stories from my parents and Elders, learning how to hunt and

preserve the meat for winter, and how to take good care of the old people and the children.

Villages like Arctic Village and Old Crow hunt the most caribou but all 15 Gwich'in villages in Alaska and Canada rely on it through sharing and trade. If the caribou herd is not healthy, we have no where else to go. We are strong because we live on our ancestral land. It is our responsibility to keep this land clean and to pass it on to our children and grand-children, and for your children too.

The oil companies say that development won't hurt the caribou but they are not telling the truth. Our Elders know that. They say we should never disturb the caribou birthplace because it is a sensitive place. Now the biologists have found out the same thing with science.

Even after 20 years, pregnant females and caribou with calves still avoid the haul road and pipeline. Biologists say the herd could decrease by 20-40 percent, and it could change its migration route if the birthplace is disturbed. The central arctic caribou herd used to have their calves at Prudhoe Bay, but they don't calve there anymore. They were lucky because there were good places for them to go to the east and west. They have their calves in those places now. It's not like that in the Arctic Refuge. The mountains come too close to the ocean and the caribou will not have another safe and healthy place for calving if they have to move.

Lately it seems like people who want development will say almost anything about the Gwich'in to get oil development. It's hard to fight this way because our Elders told us to protect the Arctic Refuge and to "do it in a good way." But I will try to point out some of the misinformation people are using against us.

The Arctic Slope Regional Corporation says we oppose their right to develop their own land. This is not true. We have never taken a position on development on Kaktovik lands in the Arctic Refuge. Our position is that no oil development should be allowed in the 1002 Area which is public land and contains the most important caribou calving areas. The Arctic Refuge is the only piece of the North Slope that is closed to oil drilling.

I was told Senator Murkowski said caribou calves were not born in the 1002 Area in the last three years. This is not true. This summer 95 percent of the Porcupine caribou calves were born in the exact area where they want permission to drill according to State of Alaska biologists. They think you cannot have oil

development in the 1002 Area without hurting the Porcupine caribou herd, but then our governor and oil companies tell you just the opposite. That's not the right way to decide things.

Since the Alaska Federation of Natives passed its resolution for oil development, lots of people say Alaska Natives all agree with development in the Arctic Refuge. Again, they are not giving you a true picture. Many Alaska tribes support the Gwich'in. The AFN resolution only passed because of a block vote by the Native regional corporations. What they don't tell you is people representing 70 percent of the villages and Native non-profits voted with the Gwich'in. The AFN vote strengthened my people because it proved we have good support in other tribes, especially the rural areas where people still live by subsistence.

We are really concerned because there are so many wrong things being said and we are not able to tell everyone how things are. I urge the committee to understand and respect the concerns of the Gwich'in people. We hope to see you in Arctic Village when you come to Alaska.

Mahsi' choo (Thank you very much.)

OLIVER LEAVITT
VICE PRESIDENT
ARCTIC SLOPE REGIONAL CORPORATION

TESTIMONY

THE FUTURE OF THE COASTAL PLAIN AREA
OF THE
ARCTIC NATIONAL WILDLIFE REFUGE
BEFORE
THE
HOUSE RESOURCES COMMITTEE

August 3, 1995

Mr. Chairman and Members of the Committee, my name is Oliver Leavitt. I appreciate this opportunity to appear today and to submit testimony on the Coastal Plain area of Alaska's North Slope.

I appear today in my capacity as Vice President of Arctic Slope Regional Corporation (ASRC). ASRC represents the views and interests of its more than 7,000 Eskimo shareholders who live in the eight remote Villages on Alaska's North Slope. I also serve as the President of the North Slope Borough Assembly.

1. Introduction

The future status of the small Coastal Plain area of the 19 million acre Arctic National Wildlife Refuge (ANWR) is very important to the nation's long-term economic well-being and to its energy security. The status of the 1.5 million acre Coastal Plain area is also of critical importance to the future of the Inupiat Eskimo people. We are the full-time, year-round residents of Alaska's North Slope. Our

ancestors have lived in the Arctic for thousands of years and have been the stewards of its land, environment and wildlife.

2. ASRC's Interest in the Coastal Plain Decision

The interests of the Inupiat people in the Coastal Plain are economic and cultural. Congressional action on the future use of the Coastal Plain will determine whether or not my people will have a long-term tax base from which to provide essential public services. It will also determine whether there will be jobs and economic activity for our young people and our children.

Congressional decisions will also determine whether we will have the resources to maintain our culture: to teach the Inupiat language in our schools; to maintain our traditions; to honor our elders; and to preserve our unique culture. Finally, this decision will determine whether we, the people who once held aboriginal title to Prudhoe Bay and all of the North Slope's 56 million acres, will be permitted to develop the 92,160 acres of highly prospective private lands that we own in the Coastal Plain at and near the Village of Kaktovik.

Let me summarize briefly my people's specific interests in the Coastal Plain.

a. Tax base, public services and local government

Prior to the discovery of Prudhoe Bay in 1968, there was no tax base and no effective means to provide essential public services to the Inupiat people in

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our eight remote Villages. In these Villages, sewage service was by "honey pot." Water was hauled by sled (usually as ice) from lakes and streams. Children were sent to BIA schools thousands of miles away. Access to quality medical care did not exist. Fire and police protection were exceptions to the rule. Electrical service was unreliable. Communication with the outside was sporadic. Housing conditions were very poor. The cost of food and other essentials was many times that of other areas of the United States.

My people survived by their wits, by barter, by subsistence hunting, and by continuing our Inupiat tradition of "sharing."

Prudhoe Bay's discovery and subsequent developments brought major changes. These changes included, for the first time, jobs, economic activity, a local industrial tax base, and an opportunity to establish a local Borough (County) form of government. We established the "North Slope Borough" government in 1972. The Borough has actively addressed my peoples' most important needs for essential public services. For the first time, we are now able to provide our people with police, fire, medical and educational services. Prudhoe Bay, the pipeline and the commercialization of new smaller oil fields made this possible.

b. ASRC and private economic development

Prudhoe Bay's discovery also brought private sector jobs and an opportunity for economic activity to my people. Through ASRC, our regional

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corporation, and our Village Corporations, my people are now a part of this activity. Today ASRC owns and operates construction, pipeline and oil field service companies which provide jobs, dividends and economic opportunity for our Inupiat shareholders. Development activities at Prudhoe Bay and other new smaller, but important, North Slope oil fields made this possible.

c. Value and use of our private lands

Finally, Prudhoe Bay's discovery and the construction of the Trans-Alaska Pipeline gave economic value to the potential mineral estate of the land rights we were granted under the Alaska Native Claims Settlement Act. Through lease relationships with major energy companies, ASRC has generated capital to expand our construction and service companies and to create new jobs.

Unfortunately, the revenue from our lands, to date, has come only from lease payments. Prior to 1971 we, the Inupiat Eskimo people, owned Prudhoe Bay and all of the North Slope by aboriginal title. Yet, we have had no commercial oil discoveries or production on our land. We have no ownership interest in a single barrel of the 10 billion barrels the North Slope has produced.

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d. Uncertain economic future

Obviously, oil development in the Arctic has improved my people's quality of life in many ways. Oil production has opened new educational, employment and economic opportunities.

But, in major respects, our future is still very uncertain. My people's future is linked to a Congressional decision on future uses of the Coastal Plain.

Prudhoe Bay's oil production began in 1977 but now is in decline. Oil production peaked at over 2.1 million B/D in 1988 and is now down to about 1.5 million B/D. This is a 25 percent decline. And oil production continues to decline at 10 percent annually, even with the opening of some new smaller fields.

Major new discoveries are needed to attract exploration capital and extend the economic life of the pipeline. If discoveries are not made we will soon see our Borough government's tax base seriously eroded. This means the minimal public services that the Eskimo people enjoy today will have to be cut back.

Already, we are seeing job opportunities disappear as North Slope oil production declines and many oil industry activities are down-sized, consolidated and reduced to "maintenance" level operations.

Finally, without Congressional action, the economic opportunities for our Eskimo-owned companies on the North Slope and the economic value of our land will shrink and eventually disappear.

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That is the future we see if Congress does not act to open the Nation's best prospect for new "world class" oil and gas reserves to leasing.

3. Nation's Best Prospect and Need for Decision

If Congress acts to open the Coastal Plain to multiple uses – to refuge management and to leasing and properly regulated exploration and development – we see a brighter future, for all of Alaska's Native people, for the State of Alaska, and for the nation. This future could mean as many as 735,000 new jobs in all fifty states; an increase in our gross national product of \$50 billion; a major reduction in our balance of trade deficit and the \$40 billion annually we now spend for imported oil; and a major source of new revenue to reduce the Federal deficit.

No one disputes that the Coastal Plain is the nation's best remaining prospect for major new oil and gas reserves. Government and private geologists are in full agreement here. They have identified 26 separate major oil and gas prospects in the Coastal Plain. This does not necessarily mean Prudhoe Bay's 10 billion barrel discovery will be repeated. But it does mean the potential is there for one or more Prudhoe Bay size oil fields and many smaller oil fields.

The need for immediate Congressional action is clear. Oil imports now exceed 50 percent of total United States demand. Various projections are that oil import dependence will soon grow to 60 and 70 percent.

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Domestic oil companies are willing to commit additional resources and capital on the North Slope. But, absent authorization for leasing in prime areas such as the Coastal Plain, these resources and jobs will be allocated to exploration projects in other countries.

4. Potential of the Coastal Plain

The Coastal Plain of ANWR presents the single most important option available to the nation to add major new domestic oil reserves and production.

This option is available in a time frame which will permit new reserves to be transported to markets in the lower 48 states. If the Coastal Plain is not opened soon, however, there will come a time when Prudhoe Bay and other oil reserves will be substantially depleted. This means that the Trans-Alaska Pipeline System (TAPS) will eventually become uneconomic and will be retired and dismantled. This could happen in 10 to 15 years. Because of long lead times for Arctic development, a Coastal Plain decision is needed now, this year.

The dismantling of TAPS would make it unlikely that Coastal Plain oil and other potential North Slope revenues could ever be produced. This also means that other small offshore and onshore discoveries on the North Slope would never reach commercial production.

5. Clear Precedent for Development

Opening the Coastal Plain to leasing does not set new a precedent.

Prudhoe Bay and other fields next to the Coastal Plain were leased thirty years ago.

The Department of the Interior has had an aggressive Beaufort Sea OCS leasing policy in offshore waters adjacent to the Coastal Plain for more than a decade. The State of Alaska had been leasing lands within the three mile limit – touching the shore of the Coastal Plain – for years. Wells are being drilled in these waters and discoveries are being made. Yet, the dangers presented by development in these icy, turbulent, wind-driven federal and state waters exceed those presented in the onshore Coastal Plain.

6. Legislative Recommendations

a. Impact Aid for Kaktovik Village

ASRC recommends that Federal legislation to lease the Coastal Plain include appropriate impact aid for Kaktovik Village to provide essential infrastructure and any necessary social services. A decision to open the Coastal Plain will bring greatly increased visitor traffic and other pressures on a Village whose people support oil development, but who desire to retain their privacy, their culture and their character as a traditional subsistence Eskimo community.

With advance planning and modest financial aid both the Borough and Kaktovik can play an important role in meeting the legitimate needs of the government in connection with Coastal Plain exploration and development.

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The impact aid provision should also be available for any other community that might be effected by leasing and development. An impact aid fund may not be needed, but would provide a safety net.

b. Major Oil Company Amendment to Take Eskimo Property Rights

In previous Congresses, several major oil companies have made an effort to secure adoption of an amendment to Coastal Plain legislation which would be an unlawful taking of the contractual and property rights of ASRC and its Eskimo shareholders. This amendment would prevent ASRC from engaging in exploratory drilling on the private lands owned by ASRC in the Coastal Plain on the date of enactment of leasing legislation. Instead, such activity could not occur on our private lands until after the first lease sale is held.

As background, ASRC received the rights to 92,160 acres of subsurface in and adjacent to the Coastal Plain in an August 9, 1983 land exchange with the United States. Approximately 69,000 acres of this subsurface estate is not in the Coastal Plain. ASRC was free, from the date of the receipt of this land, to engage in exploratory drilling on these lands. However, approximately 23,000 acres of ASRC's subsurface estate is within the Coastal Plain as that term was defined in section 1002 of ANILCA. On this 23,000 acre parcel, ASRC had agreed to refrain from exploratory drilling until the date of enactment of legislation opening either the Coastal Plain of ANWR or the ASRC lands to oil and gas exploration or development. Once Congress acts to open the Coastal Plain

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of ANWR to oil and gas exploration or development, ASRC has a right to engage in exploratory drilling on this 23,000 acres of privately owned land (known as "the fourth township"). Enclosed for the information of the Committee as Appendix A is a February 28, 1989 memorandum that describes in more detail ASRC's rights to engage in exploratory drilling on the fourth township.

Several major oil companies have been active in proposing an amendment to preclude ASRC from engaging in exploratory drilling on this fourth township of land until after the first lease sale. Ironically, Exxon and other oil companies pushing this amendment were invited to submit lease offers on our Kaktovik land in the mid-1980s. Now they want Congress to give them an advantage they declined to purchase on the open market.

We believe that the proposed amendment is bad public policy. It would constitute an unfair legislative taking of our private property rights. Some major oil companies contend that this amendment will ensure a "level playing field" for all participants in the first lease sale in ANWR. At the same time, several of the proponents of this amendment have participated in exploratory wells in the Federal and State offshore areas directly adjacent to the Coastal Plain of ANWR and the ASRC lands. By preventing ASRC from engaging in exploratory drilling on ASRC's private lands while engaging in these same activities on adjacent offshore leases, these companies are in fact heavily tilting the playing field in their favor.

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c. Land Use and Environmental Provisions

As a member of the Borough Assembly, as an officer of ASRC, as a Whaling Captain and as a subsistence hunter of caribou, I have carefully watched oil development on the North Slope. As a young man in the 1960's, like many of my people, I had concerns, I feared the impact of this new technology.

History and thirty years of experience demonstrate that my fears were unfounded. Health stocks of fish and wildlife are compatible with responsible oil development. The Central Arctic caribou herd at Prudhoe Bay is larger than ever – 3,000 in 1972 and 24,000 today – and thriving. Some species of once endangered birds are coming back in the oil fields.

And the footprint of development is constantly getting smaller. Technology is showing major gains. Horizontal drilling means more wells able to reach farther from smaller drilling pads. Better land use planning consolidates common facilities. Gravel roads are being replaced by winter ice roads which melt without leaving a trace of man's activity.

But these gains do not happen by chance. They are the product of hard work by an industry that is constantly being pushed by the North Slope Borough, by the State of Alaska and by the Federal government. The push is to produce the oil we need more efficiently with fewer and fewer impacts on the land, the environment and the fish and wildlife.

d. Wildlife in the Coastal Plain

Mr. Chairman, those who oppose leasing in the Coastal Plain and advocate designation as Wilderness, have advanced a wide range of shifting arguments over the years. In recent times, they have turned their arguments on the need to protect the Porcupine Caribou herd.

There is a need to protect all species of fish and wildlife from being adversely impacted. This includes caribou and other species. Fortunately, we know how to do this. Prudhoe Bay demonstrates compatibility with the Central Arctic Herd. It also demonstrates years of caribou-friendly planning and operational experience.

The caribou is a very adaptive animal. The Canadians showed this when they drilled fifty or more oil wells just east of the Coastal Plain over the past twenty five years. They also demonstrated this when they built the Dempster Highway through the heart of the range of the Porcupine Caribou herd.

There are many known and proven ways to explore for and develop oil fields in ways that are compatible with caribou. These included raised pipelines and covered ramps to assist pipeline crossing; seasonal closing of exploration during the short calving season; and concentrating year round activities such as hotels and maintenance facilities in areas least used by caribou and other wildlife.

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7. Alaska Federation of Natives Support

The Alaska Federation of Natives (AFN), the highly respected state-wide organization of Alaska's Native institutions, supports leasing the Coastal Plain. I would like to submit AFN's June 13, 1995 Resolution for the hearing record.

AFN supports leasing in the Coastal Plain for a wide variety of reasons that are very important to Alaska's Native Americans.

Over 85 percent of Alaska's revenues for education, medical care, public sanitation and other programs come from taxes and royalty on North Slope oil

North Slope oil provides many of the jobs for Native people and much of the economic activity that is necessary to Native-owned businesses enterprises.

Many of Alaska's rural villages lag behind urban areas in employment, public services and opportunity. These are often Native Villages. Closing this gap requires the real resources that North Slope oil and the Coastal Plain can provide.

Finally, Mr. Chairman, I should note that passage of the AFN Resolution was not unanimous. This is what happens in democratic institutions. The vote was 16 to 9 by AFN's Board, an almost 2 to 1 majority. Ms. Sarah James, a member of the Gwich'in Steering Committee, and a witness on this panel spoke against the AFN Resolution. I want to make a couple of points about the Steering Committee's opposition:

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First, I do not believe they represent the views of the majority of the Athabascan Indians who live in the interior of Alaska or Doyon, the Athabascan Regional Corporation.

Second, in 1980 those who call themselves the Gwich'in leased all of their 1.8 million acres of land on the Venetie Indian Reservation. This oil and gas lease was to the Rouget Oil Company for \$1.8 million.

Third, the lease, which was recorded a matter of public record, did not contain any provisions to protect the Porcupine caribou herd which often passes through the reservation during its annual migration.

Fourth, after the expirations of the original oil and gas lease, the tribal government for the 350 residents of the two Villages on the Venetie Reservation again advertised and offered all of their 1.8 million acres of land to any oil company for oil and gas leases.

Fifth, a number of the present Members of today's Gwich'in Steering Committee, including Ms. Sarah James, were among the officials who signed the oil and gas leases as well as the subsequent offer to lease.

Mr. President, to keep the history straight, I submit these lease documents for the hearing record.

Mr. Chairman, Members of the Committee, my people want what the Gwich'in have already had. We want the opportunity to have the economic benefit of our private lands. We also believe that the public land area of the Coastal Plain should be

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developed for its highest and best use. This will enable all Native people in Alaska to have a better life with greater opportunity for their children.

CONCLUSION

Mr. Chairman, my people appreciate the opportunity to present our views. The future of the Coastal Plain is of critical importance to our future and our children's future. We recognize that our interests sometimes get lost in debates involving national energy policy, balance of payments, the budget deficit and other fundamental issues of government policy.

We strongly urge the Committee to open the Coastal Plain to a carefully regulated, environmentally sensitive program of leasing, exploration and development.

[The attachments to this statement were placed in the files
of the committee.]

**Statement of Scott I. Kerr
Manager, Kuparuk Development
ARCO Alaska, Inc.
to the
Committee on Resources
U. S. House of Representatives**

**Hearing on Opening the 1002 area of the
Arctic National Wildlife Refuge to Oil Exploration and Development
August 3, 1995**

I am Scott Kerr, Kuparuk Development Manager for ARCO, Alaska, Inc. with offices located at 700 G Street in Anchorage. I would like to share with you my knowledge regarding oil and gas development on the North Slope. I am responsible for identifying and developing new reserve opportunities in the Kuparuk River Unit and the surrounding area.

Attachment 1: Map of North Slope Accumulations

I would like to discuss the West Sak oil accumulation, most of which overlies the Kuparuk reservoir. I will describe ARCO's past efforts to develop West Sak and the technical and economic challenges we must overcome in order to produce this resource. Because of the large amount of oil in place, West Sak is often mistaken for another Prudhoe Bay. However, due to poor oil quality and poor reservoir rock quality that is not the case. Put another way, not every seven-footer can play in the NBA.

We know a lot about West Sak. It was discovered in 1971. West Sak is a shallow reservoir, located just beneath the permafrost at depths ranging from 2,500 feet down to 4,500 feet. The formation extends over 300 square miles, stretching from the southern boundary of the Kuparuk River Unit to the Arctic Ocean. The formation is 25 miles long and 15 miles wide. As the Kuparuk and Milne Point fields have been developed, the industry has drilled hundreds of wells which have penetrated the West Sak on their way down to the Kuparuk reservoir. This has allowed us to obtain extensive reservoir information, including log analysis, core samples and fluid analysis from the entire West Sak.

West Sak oil is what we call heavy oil. The oil is of similar quality to other heavy oil accumulations world wide. Unfortunately..... West Sak is in Alaska.... not California or Oklahoma. As a result, the value of West Sak oil is diminished not only by the temperature of the oil and the oil properties but also by the cost of overcoming Arctic conditions and transporting the oil through an 800 mile

pipeline to tankers which must then carry the oil to market. These are significant economic hurdles that makes West Sak development a risky venture.

We estimate that West Sak oil-in-place exceeds 10 billion barrels, which makes it larger than the Kuparuk field, but smaller than Prudhoe Bay. Oil-in-place is a measure of the total oil volume contained in the formation. Because only a fraction of the oil-in-place in any accumulation can be produced, reserve estimates are a better measure of an oil accumulation's true potential. Reserves -- by the Securities and Exchange Commission definition -- are barrels of oil which can be economically produced using today's technology at today's oil price.

The State of Alaska estimates original total reserves of 2.5 billion barrels at Kuparuk and 12.2 billion barrels at Prudhoe Bay. In contrast, ARCO currently carries no West Sak reserves in its SEC filings. We have been working to develop technology which will enable us to book West Sak reserves. But even under our most optimistic scenario we anticipate potential reserves in the range of a half billion barrels -- a significant number but substantially less than the giant fields to which West Sak is often compared. Half a billion barrels is still a significant prize -- one that ARCO has pursued and will continue to pursue.

Attachment 2: West Sak Type Log/Prudhoe Type Log

Our estimate of potential reserves is low because in addition to containing heavy, viscous oil, the West Sak is not one thick, continuous formation. Instead, it is composed of five primary oil-bearing strata. Each contains several sub layers of varying thickness and areal extent which are separated from each other by impermeable shales. These isolated oil-bearing strata and sub strata are thin and of poor rock quality when compared to producing heavy oil accumulations elsewhere in the world. In comparison to Prudhoe Bay, the West Sak is of very poor quality and would be challenging to produce with today's technology.

Attachment 3: East / West Cross Section

Analysis of data collected during Kuparuk development shows that the West Sak formation gets deeper to the East. As the formation becomes deeper, the oil becomes warmer, less viscous and easier to produce. Reservoir rock quality also varies widely across the field. This variability has encouraged development of a limited area of the West Sak in the Milne Point field.

Attachment 4 : West Sak Core Area

It may also allow development of a relatively small area of the West Sak within the existing Kuparuk River Unit boundary. Rock and oil quality are good enough in this area to justify research and testing of new technologies which could allow production of a small portion of this large resource.

Attachment 5: West Sak Time Line

ARCO has been working towards West Sak Development since 1971. Our approach has been driven by oil price, tax and royalty regimes, technology and well performance. Our first priority was to bring on production from the underlying Kuparuk reservoir. As Kuparuk development has proceeded, we have collected West Sak data from hundreds of wells.

In early 1981, ARCO initiated a significant West Sak delineation and research effort in conjunction with ARCO Exploration and Production Technology Center in Plano, Texas. This effort cost over \$200 million, spanned nine years and included a three-year West Sak production pilot which began in 1983. Oil prices at that time were significantly higher than today, encouraging us to attempt commercialization of what was seen, even then, as a marginal asset with many technical challenges.

We produced more than 1 million barrels of West Sak oil and learned that both waterflooding and tertiary EOR will be required to produce West Sak successfully.

We also tested completion techniques necessary to produce cold, thick oil through a low permeability and highly unconsolidated reservoir rock. The oil doesn't flow easily and when it does it tends to carry large amounts of formation sand with it..... sand which is deposited in producing wells choking off production.

We had to perform expensive additional wellwork to obtain reasonable well productivity and to keep the heavy oil from carrying sand into our well bores in order to maintain these reasonable production rates. The pilot project was a technical success but an economic failure. We developed the technology required to provide a 300 to 400 bopd rate in the very best part of West Sak. However, the cost of operating the pilot project was too high to continue production from even the best part of the West Sak accumulation.

The pilot was abandoned in 1986 and production has never resumed. Research, continued, however, followed by an additional well and production test in early 1989. Plans for a second West Sak pilot were scrapped later that year. That decision was based on a number of factors including a decision by the state to increase severance taxes at Kuparuk by an estimated 40 percent. This was a major hit because every barrel of West Sak production would have been taxed at the higher Kuparuk tax rate. West Sak is a marginal prospect which could not support the cost of its own, stand alone processing facilities.

Our decision was also influenced by an expectation that oil prices would remain low for a number of years and the fact that there were still significant remaining technical challenges. In late 1994 ARCO resumed work on West Sak. We took this step because a lot has happened in recent years.

On the technical front, our industry has had a decade of technological advances many of which could help lower costs and increase production rates at West Sak. In addition, a large scale, tertiary enhanced oil recovery project has been approved and is being developed at Kuparuk. The availability of this EOR infrastructure for use at West Sak significantly lowers a prior economic hurdle.

On the political front, the state of Alaska is actively seeking ways to encourage development of marginal oil accumulations. Earlier this summer, Governor Tony Knowles signed legislation giving the state the flexibility to adjust royalty rates for fields like West Sak. The state has also developed a mechanism for preserving the separate tax status of separate reservoirs produced through a common processing facility.

Given all that has changed, it made sense to look at West Sak again to determine if now is the time to again begin moving towards commercialization. Our goal is to make West Sak viable in a low oil price world. The current effort began in our technology center where a group of scientists and engineers identified new and emerging technologies which might be applied to the problems of producing West Sak. Teams in Plano and Alaska are assessing these technologies to design necessary field tests. We want to determine if we can break through impermeable shale barriers with massive hydraulic fractures. We want to determine if multilateral wells targeting multiple strata can provide adequate production rates at an affordable cost. We want to test new sand control methodologies.

We will be seeking funding to re-enter the 1989 test well and possibly drill new wells for the purpose of conducting these field tests. By 1997 we hope to have a prototype well completion which could be used to develop the most attractive portions of the West Sak accumulation.

Field development will depend on whether these efforts increase well productivity while also decreasing development and operating costs. It is our hope that these new technologies will allow us to proceed with field development. When that day comes, our approach will be conservative and incremental. Field development will be accomplished through a series of cautious, carefully planned steps designed to minimize the considerable economic and technical risk inherent to West Sak.

As I said before, because West Sak is a marginal resource which can't support the cost of stand-alone development, every barrel of West Sak oil will be produced through existing Kuparuk facilities. As the Kuparuk rates decline and as we eliminate the economic and technical hurdles, we will begin developing the very best part of the West Sak. We will drill a handful of wells, test and enhance the economic viability of our operations and improve our technology before expanding our operations into areas of decreasing reservoir quality and increasing risk.

In short, we hope to establish a foundation from which we can expand as project performance dictates. West Sak will not require major new facility expansions. It will require, however, fabrication of smaller expansion modules along with drill site production modules that will be constructed in Alaska. West Sak development will also require the drilling of hundreds of new development wells over the production life of the field. This work could be spread over a decade or more.

Attachment 6: Kuparuk and West Sak Rate Forecast

This graph shows estimated West Sak production rates. If West Sak could compete economically with Kuparuk field production for processing space, it would be brought on sooner. The converse is also true. Initial West Sak production rates will be low and will gradually replace Kuparuk production. We estimate maximum rates of less than 150,000 bopd. This is equal to less than 10 percent of current, daily North Slope oil production.

Attachment 7: North Slope Rate Forecast

West Sak will not keep TAPS full. In fact, ARCO's forecast of future West Sak potential is a very small part of the future forecast of known resource potential. But in combination with production from other North Slope resource areas -- including those areas not currently accessible -- it can extend the life of this strategic national asset and make a meaningful contribution to US daily production.

Attachment 8: Summary

In summary, the West Sak contains a significant amount of oil but, it does not have multi-billion barrels of reserves like the Prudhoe Bay or Kuparuk fields contained. Due to its heavy oil and lack of sand continuity, the percentage of oil recovered from West Sak will be significantly lower than other NS fields. We estimate that the overall recovery of oil from the West Sak will be below 10% of the oil in place, compared to almost 40% recovery in Kuparuk and over 50% recovery in Prudhoe Bay. In the best areas, the recovery from West Sak can approach 30% but, a large area of the West Sak will not be economic to produce.

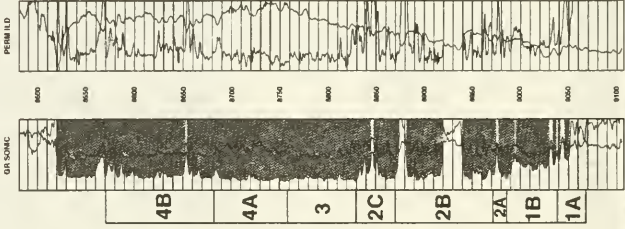
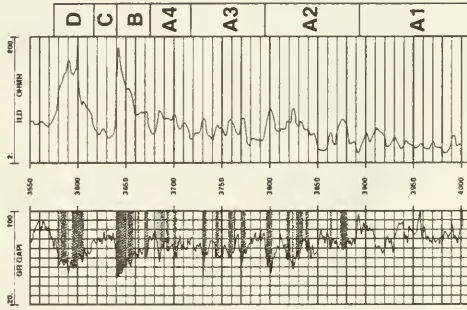
Production from the West Sak will be much lower than other North Slope fields, requiring the drilling of numerous wells to produce the field. West Sak is both a technical and economic challenge. We have spent over \$200 MM on this field and still have not come up with solutions to all the technical challenges facing us. Future development will be risky and require new drilling and completion technology not yet in common use. This technology has greatly improved during the past 10 years and we believe that portions of the West Sak reservoir can be economic to develop and produce into existing NS facilities. ARCO sees the West Sak as a key resource to our company and is committed to bringing the field on production in an economic fashion.

Alaska North Slope Accumulations



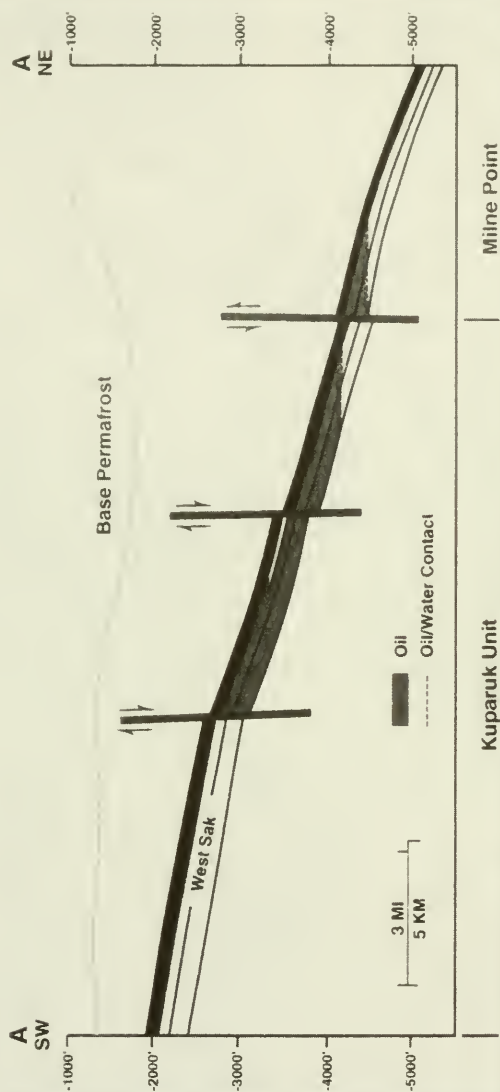
West Sak Type Log

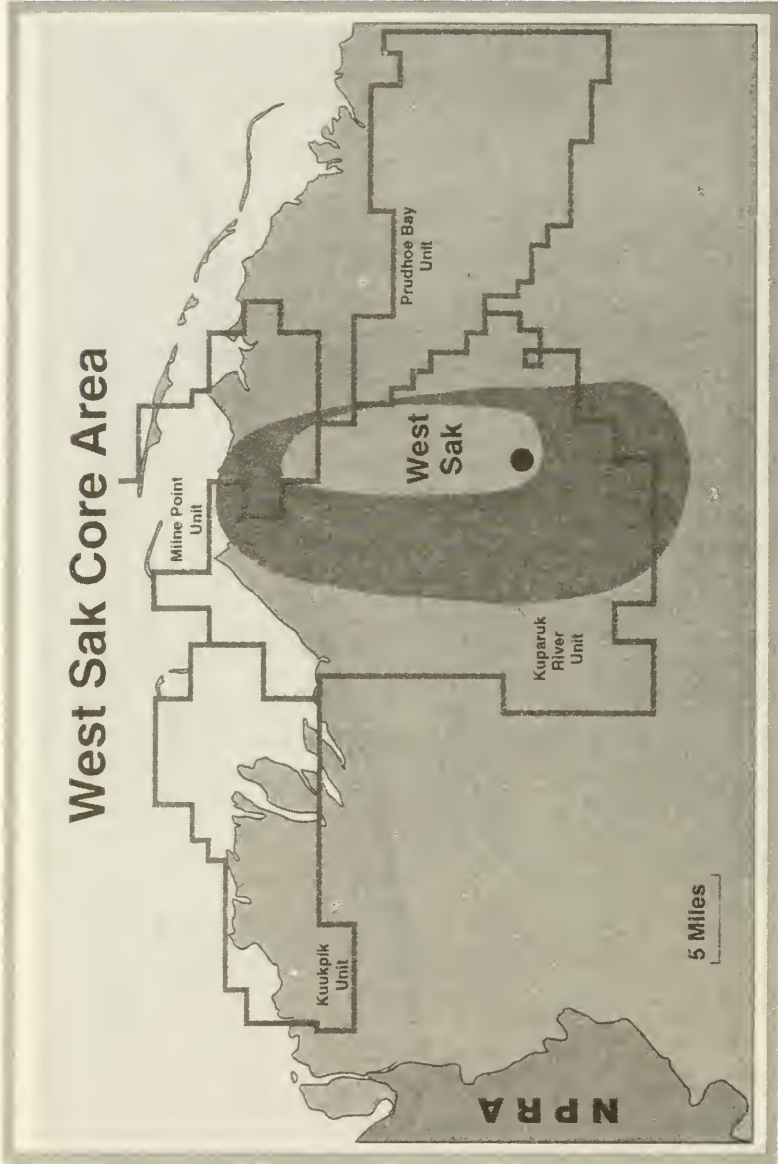
Prudhoe Bay Type Log



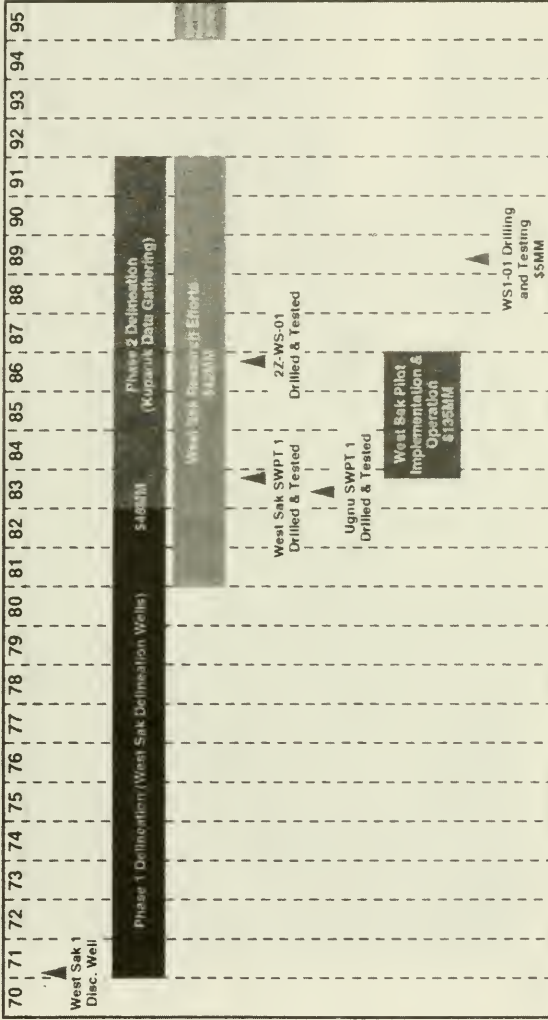
OIL PRODUCTIVE ROCK

West Sak Cross Section

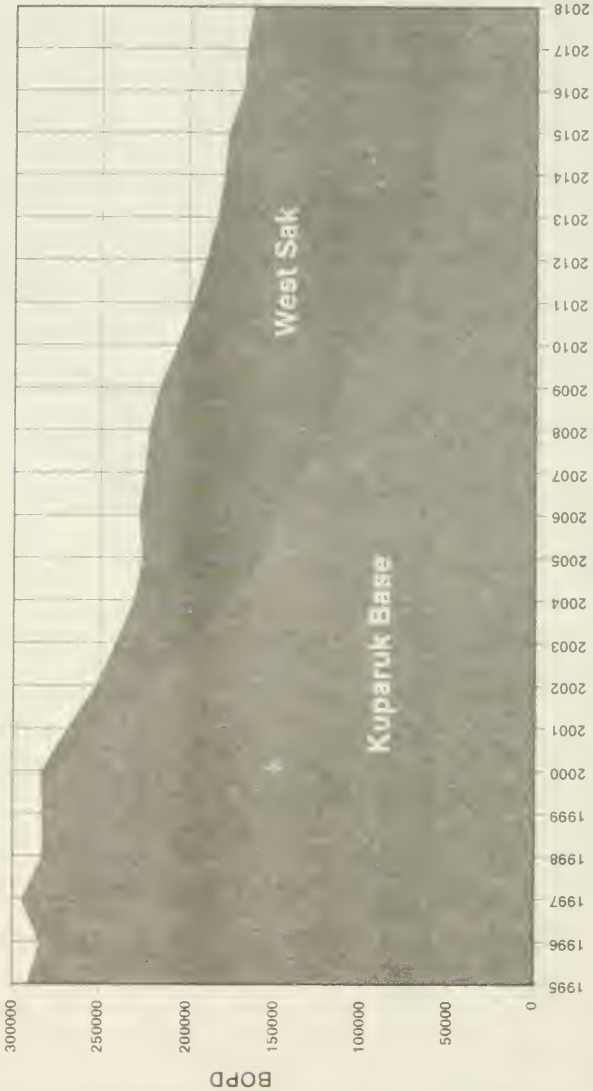




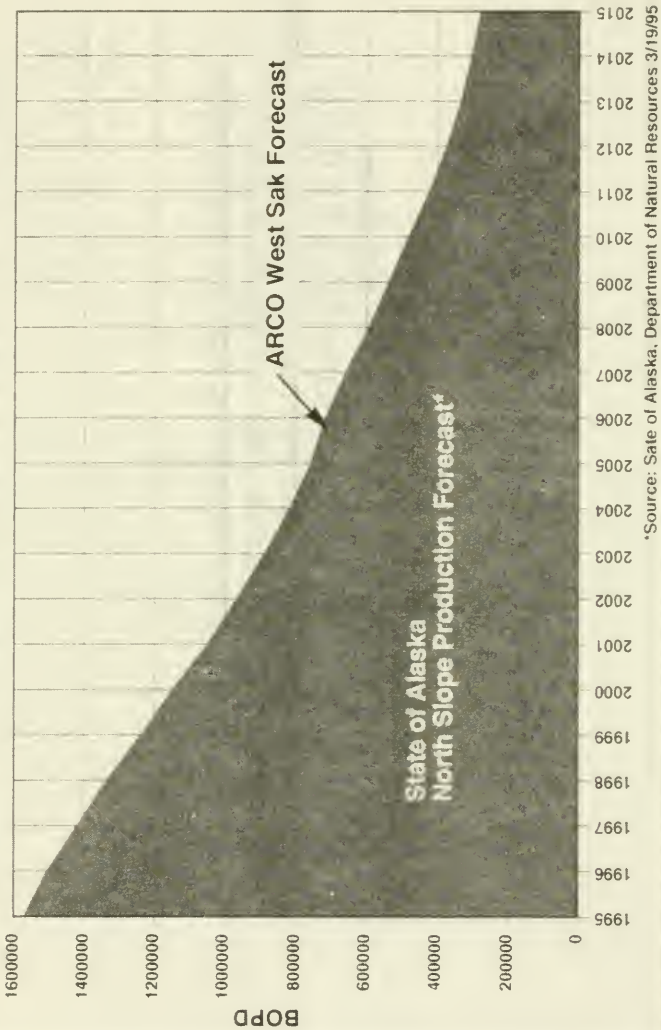
West Sak Historical Timeline



West Sak and Kuparuk Potential Production Forecast



North Slope Production Forecast



West Sak Summary

- It is not another Prudhoe Bay
- Recovery will be lower than other NS fields
- Production rates are lower than other NS fields
- We still face significant economic / technical hurdles
- Recent technical advances are encouraging
- AAI is working to bring West Sak on production



MAPCO PETROLEUM INC.

Statement of
W. Jeffrey Hart
President
MAPCO Petroleum Inc.

Before the
Committee on Resources
United States House of Representatives

on
The Leasing of the Coastal Plain of the
Arctic National Wildlife Refuge

August 16, 1995


MAPCO PETROLEUM INC.
W. Jeffrey Hert
 PRESIDENT

As president of a company that refines and markets American petroleum products, I respectfully submit this statement on behalf of the over 400 employees in Alaska and 2,700 employees nationwide which comprise MAPCO PETROLEUM Inc.

Our company owns and operates two refineries, one in North Pole, Alaska, and one in Memphis, Tennessee, and over 250 retail gasoline convenience stores in Alaska and the Southeastern United States. We fully understand the importance of increasing domestic energy production and support the exploration and development of oil and gas resources in the Arctic National Wildlife Refuge (ANWR). We believe, like many others, that this area in northern Alaska can retain its environmental integrity while yielding to progress and sensibility.

For far too long and at too great a price, our nation has depended on foreign oil. Even more troubling, the trend is not only continuing, it's growing and at an alarming rate. The results are obvious - a declining number of good jobs for American workers, pipelines like the Trans-Alaska Pipeline System that could eventually run dry, and a state of national security that depends on events in the Middle East. It's time for this to change and an important part of the answer is found in the domestic energy production which ANWR can provide.

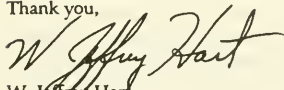
In this fertile coastal plain lies the hope of opportunity, a potential economic stimulus for the country and for our national energy infrastructure. According to knowledgeable sources, including government estimates, access could mean hundreds of thousands of new jobs for skilled workers, new sources of revenue for Alaska and federal deficit reduction, stable volumes for pipeline shippers, and security for the future.



But we must act now if we are to realize the results that have been forecast and expected by so many. By waiting, we risk losing a window of opportunity because tomorrow's hopes depend on today's discoveries.

Deemed the Last Frontier, Alaska and its North Slope hold the key to our energy future and the jobs to fuel our economy. I appreciate this chance to share MAPCO's views and encourage you to support legislation that opens the coastal plain of ANWR to safe exploration. It's the right thing to do because America benefits.

Thank you,

A handwritten signature in black ink, appearing to read "W. Jeffrey Hart". The signature is fluid and cursive, with the first name "W." and last name "Hart" being the most prominent parts.

W. Jeffrey Hart

STATEMENT
OF THE
AMERICAN PETROLEUM INSTITUTE
BEFORE THE HOUSE COMMITTEE ON RESOURCES
AUGUST 3, 1995

This is the statement of the American Petroleum Institute, which represents more than 300 companies involved in all aspects of the oil and natural gas industry -- including exploration, production, transportation, refining and marketing.

The American Petroleum Institute (API) believes that Congress should act now to open the coastal plain of the Arctic National Wildlife Refuge to oil exploration and development. Opening the coastal plain offers the best single opportunity to increase significantly domestic oil production. Failure to act could lead to an early shut-down of the Trans Alaska Pipeline and the loss of potentially enormous domestic oil reserves. Moreover, a quarter century of oil operations on Alaska's North Slope has shown that oil exploration and development on the coastal plain would be fully compatible with arctic wildlife and environment.

Exploration and development on the coastal plain offer four substantial benefits to the American people. The first is a real boost to domestic oil production. There could be vast amounts of oil in ANWR's coastal plain. The U.S. Department of the Interior has estimated that there is a 46 percent chance of discovering economically recoverable oil in the coastal plain -- possibly as much as 9.2 billion barrels. These are extraordinarily good odds, since only one out of every 50 wells drilled in unexplored areas has resulted in a major discovery of a million or more barrels of oil or an equivalent amount of natural gas. An analysis by the American Association of Petroleum Geologists contends that the 9.2 billion barrel estimate is conservative and that ANWR could hold 15 billion barrels of recoverable oil, larger than the nation's largest oil field, Prudhoe Bay, just 70 miles to the west. ANWR's oil would help replace declining production from existing Alaskan fields that now provide 25 percent of U.S. domestic oil production.

Second, ANWR offers significant economic benefits for the United States. In 1987, the U.S. Department of the Interior stated that net national economic benefits from ANWR development could reach \$325 billion. While these estimates will vary with the assumptions used, it is likely

that, in any case, net economic benefits would be in the hundreds of billions of dollars. Development of the North Slope oil fields has already contributed more than \$300 billion to the U.S. economy. Assuming reserves of 15 billion barrels, production in ANWR could last for 25 years, peaking at about 2 million barrels a day. That would be nearly 33 percent of the current daily U.S. production. A production level of 2 million barrels a day would mean that the coastal plain was one of the world's most productive fields. Were it a country, the coastal plain would rank among the top eight oil-producing countries in the world.

Third, ANWR offers a significant source of income for the federal government, no insignificant benefit at a time of tight budgets. Depending on the world price of oil, the U.S. Treasury could count on an influx of several billion dollars a year in revenues from lease sales and production royalties from ANWR oil. Revenues from the ANWR lease sale would be paid up front, providing funds to help reduce the federal budget deficit in the short term.

Fourth, ANWR offers a significant source of income for the government and people of Alaska. The petroleum industry is already the largest source of income for Alaska. The industry provides 35 cents out of every dollar produced in Alaska and 78 cents out of every dollar that finances Alaska's state government.

Critics cite certain environmental disadvantages, which have been blown out of proportion. Three facts will keep this proposed activity in proportion. First, exploration and development of ANWR will take up only a small fraction of its millions of acres. Oil operations in ANWR would take place on a small portion of the coastal plain. The coastal plain covers about 1.5 million acres, which is only about 8 percent of ANWR's total area. But the actual operations would take up about 19 square miles, or less than one percent of the coastal plain, and less than one-tenth of one percent of the full ANWR. Nineteen square miles are roughly equivalent to the size of Washington, D.C.'s Dulles Airport. (ANWR itself is about the size of South Carolina.)

Second, oil development will not adversely affect the area's wildlife. Oil field activities already conducted on the North Slope have not had any significantly adverse impact on the population size of any fish or wildlife species, including caribou. In fact, the caribou have thrived. The Central Arctic Herd, which grazes in the Prudhoe Bay oil field, now numbers more than 23,000. That

is eight times larger than when oil development first began in the Prudhoe Bay area in the early 1970s. The oil companies have worked with federal, state and local authorities to make sure their structures permit such wildlife movements as caribou migration. Other forms of wildlife, such as bears and wolves, use the projected ANWR site only infrequently and would not be affected by oil development. For example, not a single grizzly bear has ever been killed in the North Slope oil fields in the course of routine operations.

Third, oil operations cause only a temporary loss of a very small amount of habitat. Federal law mandates that the environment must be protected during oil and gas development anywhere on federal lands. Once oil operations are completed, companies are required to remove all of their equipment and restore the land as closely as possible to its natural state. The oil industry is perfecting reclamation and rehabilitation of exploration sites in the Prudhoe Bay field. Since 1990, more than 61,000 cubic yards of gravel have been removed from 912 sites, and more than 4.1 million square feet of gravelled tundra have been cleaned, as part of a gravelled-tundra rehabilitation project. As part of a 10-year revegetation project, seed from 33 native plant species was harvested in 1989 and planted in 144 plots in 1990 to evaluate methods of modifying gravel pads to encourage natural revegetation.

To sacrifice this potentially huge source of domestic oil production for the insubstantial reasons offered by some environmentalists would be a grave mistake. It would be compounded by the fact that such a decision could adversely affect the feasibility of other North Slope development, even at known locations. A 1991 study by the U.S. Department of Energy says that technology and economics make it difficult or impossible to operate the Trans Alaska Pipeline at flow rates of less than 300,000 barrels per day. Unless new fields can be developed to maintain such a rate of flow, the pipeline will shut down, probably irreversibly, leaving large amounts of recoverable oil behind. Former Energy Secretary James Watkins argued that such a shutdown "may be tantamount to permanent shut-in of the entire region." In an area like ANWR, it could take at least 10-12 years to begin production after the initial lease sales. So an early sale could play a significant role in forestalling such a wasteful and premature shutdown.

To summarize the industry's position: the potential benefits of oil development in ANWR are enormous; the

potential environmental effects of such development would be negligible, and for the most part temporary; and the failure to lease ANWR could have an adverse and irreversible effect on current and future petroleum production in Alaska. We believe ANWR should be opened to oil and gas exploration now.

* * *

Written Testimony
to the
House Committee on Resources

by
John C. Morgan, President
BPX (Alaska) Inc.
August 1, 1995

Mr. Chairman.

BP strongly supports all efforts to secure the opening for the coastal plain of ANWR for exploration and development. The coastal plain of ANWR is an extension of a demonstrated, global scale hydrocarbon province. Various estimates have defined potential of several billions of barrels of resources. Because of the long lead times of new field development, we need to begin to explore now to assure the potential of ANWR can help supply the energy needs of the United States early in the next century.

This testimony highlights the improvements in oil field technology that have been made on the North Slope of Alaska and how those improvements will minimize the impact of future development. The oil industry can explore and develop ANWR safely and environmentally responsibly.

BP is the largest producer of oil in the United States because of our North Slope production. We operate or have interests in all seven producing fields on the North Slope, which account for nearly a quarter of the oil currently produced in the United States. We are actively developing new production within these fields and hope to develop additional fields in the near future.

During more than four decades of exploration and development activities on the North Slope, BP and other Alaskan producers have demonstrated our commitment to minimizing the environmental impacts of our operations, to maximizing production through ongoing investment and new technology, and to continuously improving our performance. We're always searching for new and better ways to conduct our business.

Reducing the Impact of Development

I would like to discuss how North Slope oil and gas development technology has evolved over the past two decades and how this has enabled us to significantly simplify our facilities and operations, reduce the cost of development and simultaneously reduce environmental impacts of development. This process is ongoing, and new fields such as Badami and Northstar that are being considered for development will use the best current and new technology to assure technical integrity and minimize environmental impact.

We expect that lessons the industry has learned since Prudhoe Bay development began in the early 1970s will enable us to significantly reduce the impacts of our future activities while maximizing the region's contribution to energy

supplies. Strides that we have taken in the past two decades have been both good business and good for the environment.

Research by industry, government and independent parties has shown that environmental consequences of oil development on the North Slope have been minimal. Long-term studies help us to determine how wildlife and oil development can coexist. They target every facet of our operations from exploration through closure.

A number of advances in development and exploration technology have enabled us to significantly reduce the impact and enhance the economics of oil activities on the North Slope. Among them are:

- Elimination of surface storage, or "reserve" pits for disposal of drilling wastes;
- Closer spacing of wells on a gravel drilling pad;
- Extended-reach drilling, enabling recovery of oil reserves as far as 3 miles away from a single surface location where wells are clustered;
- Simplifying facilities in order to make them more space- and cost-efficient, including consolidating processing facilities with living quarters;
- Using ice, instead of gravel roads for pipeline installation and other construction activities so they'll melt in spring, leaving little trace;
- Using ice roads and pads for exploratory drilling, and conducting land seismic operations on snow-covered tundra, again leaving little trace.

In the past, exploration drilling was conducted from gravel pads and sometimes required gravel air strips for support. Today, all exploration work is conducted from ice pads and ice air strips, which leave virtually no impact on the tundra when they melt.

What of the Future

Two techniques new to the North Slope are under consideration as we endeavor to find ways to economically develop the Badami discovery, lying about 30 miles east of Prudhoe Bay. These are a buried, chilled pipeline and no access road from existing oil field infrastructure to the West. These methods would significantly further reduce development costs and environmental impacts, and we believe they are both feasible and economic for Badami. They may or may not be applicable for other new developments.

Well Pad Evolution

In the past 25 years there has been roughly a 70% reduction in the size of an average North Slope drilling pad (figure 1). The same number of wells that required a 20-acre gravel pad in the 1970s can now be drilled from a pad covering about 5 acres.

This has resulted primarily from major changes in well spacing, the disposal of drilling wastes and the size and complexity of production facilities. Drilling technology has advanced to the point where we can space wells as close as 10 feet apart, and 15 feet is common. In the 1970s, Prudhoe Bay wells were spaced approximately 100 feet apart.

We've also eliminated the use of surface reserve pits to store drilling wastes. Instead, rock cuttings and the spent drilling mud are washed and ground into a slurry, then injected into a confining geologic zone more than 3,000 feet beneath the surface. No surface disposal of drilling wastes are expected on future North Slope projects along the Arctic coast.

Extended Reach Drilling Technology

Advances in directional or extended reach drilling (ERD) technology also have enhanced oil recovery efforts while reducing surface impacts. When Prudhoe Bay began production in the mid-1970s, we were able to deviate about a mile-and-a-half, horizontally, from a well's surface location.

Today, extended reach drilling is enabling us to tap accumulations nearly three miles offshore from an onshore location at our Niakuk field, and we expect to extend our reach to nearly four miles in the near future. Such distances already have been achieved at a BP development in southern England, and we have been transferring that technology to our North Slope operations.

Percent of Operating Area directly involved in Development

As a result of this evolution in development techniques, gravel placements on the tundra have been significantly reduced (figure 2). Approximately 5,000 acres, or roughly 2% of the surface area of the Prudhoe Bay Field, are covered by gravel. If we were to develop Prudhoe Bay today, and incorporate all the lessons we've learned in two decades of North Slope development, gravel would cover less than 2,000 acres -- more than a 60% reduction.

Less than 1% of the surface is affected by development in the Kuparuk Field to the West of Prudhoe Bay, and Badami development would have an impact on less than half of 1% of the surface area. These reductions have cut costs as well as minimizing environmental impact, and they would be reflected in any future North Slope development activity.

Summary

BP and the industry continue to be on the forefront of technology. We will get the most from existing fields and we feel confident that we have the ability and will to apply those technologies to other areas of Alaska's North Slope. We are committed to continuing to simplify our developments and operations, to reducing the cost of those developments and simultaneously reduce and minimize their environmental impact.

**TESTIMONY ON:
EXPLORATION AND DEVELOPMENT OF THE
ARCTIC OIL RESERVE SECTION
OF ANWR**

**ALASKA STATE SENATE PRESIDENT
DRUE PEARCE**

**ON BEHALF OF THE ALASKA STATE SENATE
AND
THE ALASKA STATE HOUSE OF REPRESENTATIVES**

**BEFORE THE US HOUSE OF REPRESENTATIVES
RESOURCES COMMITTEE**

AUGUST 3, 1995

Mr Chairman and members of the committee, I am Senator Drue Pearce, President of the Alaska State Senate. I am providing testimony to you on behalf of the Alaska State Senate and State House on exploration and development of the Arctic Oil Reserve in the Arctic National Wildlife Refuge in Alaska.

First, I would like to indicate the overwhelming support in Alaska for exploration and development of this area, which congress wisely set aside in 1980 as being the best oil prospect in the United States.

During the past legislative session, the Alaska legislature once again affirmed our support by passing resolutions with near unanimous votes. These resolutions are included in the documents we have provided to you. Resolutions in support have also been adopted by the Alaska Municipal League, the Alaska Federation of Natives, the Alaska AFL-CIO and the Kaktovic Village Corporation representing the local native residents.

In addition, last month, a statewide public opinion poll was conducted in Alaska which showed 75% of Alaskans favored exploration and development of the Arctic Oil Reserve area. 6% were undecided.

Why is there such overwhelming support? There are two basic reasons. First, Alaskans have had extensive experience with oil development and we know that with proper controls, it can be achieved with minimal disruption of the environment.

Second, revenues from petroleum production fund the majority of our state programs for education, public safety, public health, and the environment.

Regarding our commitment to environmental protection, Alaska's expenditures are unparalleled in the United States. The 1993 report "Resource Guide to State Environmental Management" published by the Council of State Governments lists Alaska as number one in state spending on the environment with per capita spending of \$520 annually. The next closest state was Wyoming at \$221 per year. The lowest state was Indiana at \$14 per year.

These basic government services are important to the people of Alaska. The media and opponents of oil development always focus on the "big bad multinational oil companies" and ignore the interests of the people. As elected representatives of the people of Alaska it is our responsibility to present the interests of our citizens to you.

But this is not just an Alaskan issue. If you will look at the maps showing the projected number of jobs that could be generated by petroleum development on the arctic coastal plain, you will see that California and Texas are both expected to benefit from more jobs than Alaska. The direct benefits will be spread all across the United States.

America's trade deficit in energy is getting worse every year and could be reduced substantially by development of the arctic oil reserve. Last year our trade deficit in energy was \$50 billion, nearly equal to our trade deficit with Japan at over \$60 billion. Last month the Department of Commerce reported that petroleum imports increased by 17.3% in May to a monthly deficit of \$4.93 billion. Our trade deficit with Japan for that month was \$5.5 billion.

Why is it that we seem to care so much about our trade deficit with Japan and yet ignore our almost equal trade deficit in petroleum products? Is it because we prefer to attack some outside enemy rather than confront a domestic issue which is clearly our own responsibility?

Alaska is not the only state that feels this way. We have joined in a coalition called The Energy Council with 9 other major energy producing states including Alabama, Arkansas, Colorado, Louisiana, Mississippi, New Mexico, Oklahoma, Texas, and Wyoming, representing 85% of energy production in the United States.

The Energy Council supports the domestic production of all forms of energy including alternative fuels and also supports conservation measures. Given that petroleum still constitutes 65% of energy usage in the United States (40% oil and 25% gas), a program to promote domestic petroleum production until we can make a transition to other fuels only makes common sense.

The Energy Council states support a practical program for increasing petroleum production in America including access to federal lands, a tax structure which creates incentives for exploration and captures tax revenues in the production phase, and a reasonable regulatory and permitting structure.

Within this context, the Arctic Oil Reserve represents a tremendous opportunity for America. These opportunities are spelled out in a Congressional Research Service report for Congress entitled "The Arctic National Wildlife Refuge" dated August 30 1993 and updated July 21 1995. I would recommend this report to all of you for a comprehensive description of the issues which Congress will address on this issue:

Although the Arctic Oil Reserve cannot alone make up for U.S. Energy imports, it can make a substantial contribution. The Congressional Research Service report states that:

"Estimates of undiscovered economically recoverable reserves range from less than 1 billion barrels to more than 9 billion barrels of petroleum."

".....If economically recoverable oil is found, the mean resource estimate is about 3 .57 billion barrels. This estimate would translate to a production peak of about 600,000 barrels per day."

The report continues: "....ANWR could contribute to the balance of trade. Replacing 600,000 barrels of oil imports per day at \$16 .80/barrel (a May 1993 price) would reduce the trade deficit by about \$3 .7 billion per year."

Mr Chairman, we have heard the argument put forward that this would only be 200 days supply of oil for the country. Frankly in my many years of public service as an elected official, this is one of the most ridiculous arguments i have ever heard.

If you used the same logic you would say that Prudhoe Bay would only provide 540 days oil supply for the nation. Prudhoe Bay represents approximately 20% of America's oil production for the past 17 years and has generated \$21 billion for the US treasury. (Alaska Department of Revenue estimates). Importing the same amount of oil produced so far at Prudhoe Bay would have added over \$160 billion to America's trade deficit.

Are they saying that Prudhoe Bay is insignificant and should never have been developed?

This effort to trivialize potential Arctic Oil Reserve production is totally false and misleading. The Congressional Research Service report puts this issue in a much more realistic perspective:

"If the low range of DOI's estimate (one field of less than one billion barrels) is correct, then 30 years of production could begin about 10 years after drilling is authorized. More likely are several fields of varying sizes producing sequentially over 50 years or more."

Well, what of the other more serious arguments against development? Concerning wildlife habitat issues, the Department of Interior conducted a five year study on the Arctic Coastal Plain area called the "1002 report". John Turner, Director, US Fish and Wildlife Service, Department of Interior testified before the Subcommittee on Fisheries and Wildlife Conservation and the Environment, US House of Representatives on May 1, 1991:

"The impact analyses predicted that exploration and development drilling activities would generate only minor or negligible effects on all wildlife resources on the 1002 area." End quote. This analysis has been borne out by our actual experience in Prudhoe Bay.

The main area of concern seems to be the porcupine caribou herd. Fortunately, we have some real data on caribou and oil field development in Prudhoe Bay. Over the 20 years of oil development there, the central arctic caribou herd has increased by over 600%.

Caribou are actually relatively insensitive to human activity unless it is hunting season and you are shooting at them. At the extreme end, whole herds of them have been domesticated and tended in Alaska, Russia and Canada. However, at Prudhoe Bay, company policies are designed to minimize human contact with caribou. Possession of firearms and hunting are strictly prohibited.

So what is the real issue here? The Congressional Research Service report correctly states:

"To understand the controversy surrounding the refuge debate, it is important to understand that those who wish to prevent development are not basing their arguments primarily on economic tests nor pollution risks..."

"Any but the most transitory intrusions would in their view, damage the 'child-like sense of wonder' they see the area as instilling. Thus, even if a number of measures of biodiversity were to remain stable in the face of development, from their perspective, the peace of the area as a place where a larger truth may be sought would be seriously corrupted."

"Moreover, the mere knowledge that a pristine place exists whether one ever visits it, can be important to those who view the debate in this light."
End quote

I will leave it up to the committee to assess the value to our nation of maintaining these type of fantasies. From Alaska's viewpoint, our biggest objection to this whole approach is that it denies the existence of the people of Alaska, particularly the Inupiat of the north slope who have lived in the ANWR area for thousands of years.

In Alaska, we live very close to the environment. To promote the ideal of people outside the environment in absolute "wilderness" represents to us a sense of alienation from nature by people in urbanized areas of the U.S. which is so deep that we actually see it as a form of mental illness.

Beyond this existential approach, other factors also come into play including the fact that ANWR is a major fundraising issue for environmental organizations. "Everything is going to be killed and destroyed - please send money."

And this disconnected view leads to some very perverse outcomes. It is very frustrating for us Mr Chairman, to see our Vice President promoting oil field development in the Russian arctic where environmental practices are a disaster, while at the same time arguing against oil field development in the American arctic in Alaska where we have the highest environmental standards in the world.

Although this may fulfill a political commitment, it makes absolutely no sense as a national policy. We look forward to the day when our nation will actually take pride in our environmental achievements.

Mr Chairman, we are confident that petroleum exploration and production can be safely conducted within the Arctic Oil Reserve area of ANWR. If the leases include strict reclamation language such as we have included in our state leases on prudhoe bay, there should be no permanent loss of habitat from this development.

Responsibly developing the Arctic Oil Reserve could provide significant revenues to the federal treasury, reduce our trade deficit and reliance on foreign oil and provide jobs to Americans. We urge this committee and all of Congress to move forward with a leasing program which will fulfill the potential which the Arctic Oil Reserve represents.

CARIBOU ENTERPRISES

DEBBIE AND DENNIS MILLER

1446 Hans Way

Fairbanks, AK 99709 (907) 479-2189

Photojournalists Contract filming

Aerial photography

Air taxi

August 14, 1995

Representative Don Young, Chairman
House Resources Committee
U.S. House of Representatives
Rayburn Building, Room 2331
Washington D.C. 20515

Dear Representative Young and committee members,

Enclosed is a copy of my August 2 testimony before the Senate Energy and Natural Resource Committee hearing on the proposed budget measure that would allow oil leasing within the Arctic National Wildlife Refuge coastal plain. Having spent a large portion of time in the Arctic Refuge over the past 20 years, I'm opposed to any development on the coastal plain. Petroleum development would destroy the wilderness values of the area, and displace or reduce fish and wildlife populations in the area. Such impacts were well documented in the 1987 1002 Report to Congress by the Dept. of Interior, and development activities would be contrary to the purposes of why the Arctic Refuge was established.

I urge you to strike the Arctic Refuge budget provision and consider other offsets and budget reductions. Please enter my August 2 testimony into the record for your August 3 hearing. In summary these are the key reasons why we shouldn't allow development:

* The extraordinary wilderness and wildlife values of the Arctic Refuge outweigh any monetary gain from development. Proposed development would destroy the wilderness values of the area, and displace or reduce fish and wildlife populations;

* The coastal plain of the Arctic Refuge is the only coastal zone that is protected within a conservation unit in the Arctic; the rest of Alaska's North Slope and millions of offshore acres are available for current or future oil exploration and development (roughly 90% of everything north of the Brooks Range);

* There are lands with moderate to high hydrocarbon potential in the immediate Prudhoe Bay/Kuparuk area, with existing infrastructure. The State of Alaska and the North Slope Borough have plenty of opportunity to explore or develop these adjacent lands. There is absolutely no reason to invade the Arctic Refuge.



of words, wings, and wilderness



* Energy security arguments have faded. Does it make sense to lift the oil export ban, open our wildest and most wildlife-rich refuge, and send its oil (if any) to Asia?

* The Gwich'in people of Alaska, the Yukon and Northwest Territories, and the Canadian government are united in their opposition to development of the calving grounds of the Porcupine caribou herd.

Representative Young, as a 20-year Alaska resident, and a person who has written two books on the natural and political history of the Arctic Refuge, there is no justification for developing the coastal plain of the refuge. The coastal plain is the most biologically productive area of the entire refuge. It is an integral part of the wilderness setting, and can't be developed without degrading the region. The Arctic Refuge is one of few wild places left on earth that should be left in its natural state.

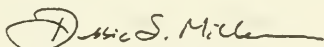
If there were no other alternatives, if oil was our only source of energy, if there were no other places on earth for multi-national corporations to explore for oil, then one might argue that there is justification for selling off the coastal plain. But this is simply not the case. We can make many other wiser choices.

It is sad that the Alaska delegation, our state legislature, and our governor, are so tied to oil development, that they are overlooking the values of this magnificent area. We must leave the Arctic Refuge in its whole, wild state for our children and for the great diversity of wildlife.

Our Alaska leadership should strive to achieve a balance between resource development and conservation of resources on Alaska's North Slope. We clearly have a balance, with the scales tipped toward oil development for all lands west of the Canning River. Shouldn't that be enough?

Please think of future generations, and let's leave the Arctic Refuge alone.

Sincerely,



Debbie S. Miller

STATEMENT OF
DEBBIE S. MILLER, AUTHOR

ON BEHALF OF
THE ALASKA WILDERNESS LEAGUE, ALASKA CENTER FOR THE
ENVIRONMENT, AND THE NORTHERN ALASKA ENVIRONMENTAL
CENTER

BEFORE THE
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE
UNITED STATES SENATE

AUGUST 2, 1995

1.

INTRODUCTION:

Mr. Chairman, and members of the Senate Energy & Natural Resources Committee, my name is Debbie S. Miller and I reside in Fairbanks, Alaska. I'm a 20-year Alaska resident, and currently serve on the board of the Alaska Wilderness League. I'm a former elementary school teacher who once taught in the Athabaskan Gwich'in community of Arctic Village, located on the southern boundary of the Arctic National Wildlife Refuge. While teaching in Arctic Village in the mid-70s, my husband, Dennis, and I had a tremendous opportunity to learn about one of the most extraordinary Native American cultures in North America, and to explore the vast Arctic National Wildlife Refuge.

Over the course of the last 20 years Dennis and I have spent the majority of our summers exploring the Arctic Refuge. In 1990, my book MIDNIGHT WILDERNESS: JOURNEYS IN ALASKA'S ARCTIC NATIONAL WILDLIFE was published by Sierra Club Books. This book is based on 13 years of wilderness explorations in the Arctic Refuge with much natural and political history information woven through the text. In 1993, I co-authored a photo-essay publication titled ARCTIC NATIONAL WILDLIFE REFUGE, published by Alaska Geographic. This quarterly captures the essence of the Arctic Refuge in words and beautiful color images. I would like to enter both of these publications into the hearing record as they will shed light on the debate of whether we should lease the coastal plain to oil development.

Last year I authored a book for children, titled A CARIBOU JOURNEY. This book describes the life cycle of the Porcupine Caribou Herd. In February I traveled to elementary schools in California and Oregon to share my book and slides of the Arctic Refuge with more than 4,000 children. The students were in awe of the wild animals that live in the Arctic Refuge and the Arctic's magnificent beauty. After viewing polar bears, thousands of caribou, grizzly bears and wolves, many of the students commented that they wished they could go to the Arctic Refuge someday. When I told the students that oil development was proposed on the coastal plain, the frequent response was lots of furrowed brows and puzzled faces, and comments such as "they shouldn't do that."

I'm here today to share with you the unsurpassed wilderness and wildlife values of the coastal plain of the Arctic National Wildlife Refuge, and to present arguments why oil development should be prohibited in this vitally important coastal region. I'm here to convince this committee, and other members of Congress, that the coastal plain of America's worldclass Arctic Refuge should remain as it is, for our children.

ARCTIC REFUGE LEASING REVENUES IN THE BUDGET RECONCILIATION

The Arctic National Wildlife Refuge encompasses 20 million acres of our nation's greatest wilderness along with a tremendous diversity of arctic and subarctic species. The Arctic Refuge is the nation's premier wildlife refuge, often referred to as the crown jewel of the National Wildlife Refuge System.

Mr. Chairman, you and the Alaska delegation, have proposed to balance the budget by selling off the most vital portion of the Arctic Refuge - the 1.5 million acre coastal plain zone known as "1002" area. This coastal plain is the most productive and wildlife-rich stretch of tundra in the entire refuge. It represents our nation's only sliver of arctic coastline that is protected within a conservation unit. In addition to slipping this proposed revenue measure into the federal budget, you and your allies mislead the public by referring to the 1002 area as the "Arctic Oil Reserve."

Under the 1980 Alaska Lands Act, Section 1002 mandated extensive studies of the coastal plain area including assessments of the fish and wildlife resources and the area's oil and gas potential. Sections 1002 and 1003 clearly state that only an Act of Congress can authorize oil and gas development in the Arctic Refuge. Given the comprehensive nature of these studies, the historical record of debate on this issue, and the level of national interest, it is unfair to Alaskans and Americans at large to legislate oil development via a line item in the budget. This type of backdoor politics was not the intent of Sections 1002 and 1003 of the Lands Act. Any budget provision offering to balance the federal budget through the sale of assets in our national refuges or parks, without full public debate, completely undermines the purpose of why America set conservation areas aside in the first place.

Last Friday, the House of Representatives voted to eliminate many of the riders in H.R. 2099, riders that substantially weakened environmental protection laws without full public debate. Congressman Boehlert of New York noted that such riders "limited the ability of members to fully debate the issues and to vote their conscience." Mr. Chairman, the Arctic Refuge revenue provision directly relates to the rider issue. Instead of drastic changes to environmental protection laws, you propose to sell off one of our greatest national treasures. Members of the Senate, and the public at large, are limited in fully addressing and considering this important issue which jeopardizes the future of America's premier wilderness. I urge this committee to withdraw any Arctic Refuge leasing revenues from the Budget Reconciliation. Any proposal to open the Arctic Refuge to development should be contained in a separate piece of legislation, and subject to fair and full debate.

3.

WILDERNESS VALUES OF THE COASTAL PLAIN

The coastal plain of the Arctic Refuge is located in one of the greatest wilderness regions remaining on the planet. Of the established conservation units, the Arctic National Wildlife Refuge, together with Canada's Northern Yukon Park compose one of the largest protected blocks of wild habitat in the world. Located on the fringe of the North American continent, the 150-mile long coastal plain represents the only protected stretch of arctic shoreline in America. The rest of Alaska's arctic coast, roughly 1,000 miles, has been set aside for past, current, and future oil exploration and development.

My wilderness experiences on the coastal plain of the Arctic Refuge have been rich and varied. I've visited the 1002 area on numerous occasions and consider those trips among the most memorable wilderness experiences of my life. I've hiked or kayaked along many of the coastal plain's exquisite and wild rivers: the Okpilak, Canning, Hulahula, Marsh Creek, Katakturuk, Jago, and Aichilik rivers. I've assisted the U.S. Fish and Wildlife Service with the censusing of the Porcupine caribou herd, and worked with Ave Thayer, former manager of the Arctic National Wildlife Refuge, on a wilderness assessment study of the coastal plain.

The results of the wilderness assessment of the 1002 area are briefly summarized in the Dept. of Interior's 1987 Arctic Refuge Coastal Plain Resource Assessment. With the exception of two relatively small abandoned DEW Line sites on the coast, the entire 1002 area meets the criteria for wilderness. In 1988, Mr. Thayer testified before the U.S. House of Representatives Committee on Merchant Marine and Fisheries and emphasized that there was no place for development within the boundaries of the Arctic Refuge. He recommended that the 1002 coastal plain area be formally designated as wilderness.

Based on my personal experience on the coastal plain, Congress indeed should designate the coastal plain as wilderness. Having hiked through many wilderness areas in the Rockies, Sierra, Cascades, and Canadian Selkirks, I rank the Arctic Refuge above all others because of the pure nature of its wilderness, its magnificent beauty, and its remote location.

The 25-35 mile wide coastal plain of the Arctic Refuge is bordered by the highest glaciated peaks of the Brooks Range. There is no place on the North Slope of Alaska where the Brooks Range comes in such close proximity to the Arctic Ocean. The scenic vista of these steeply rising mountains from the open, flower-specked coastal plain is beautiful and breathtaking. You can not take the coastal plain out of context with the surrounding mountains. As someone once said, "what are the mountains without the plain?" You cannot develop the coastal plain without affecting the wholeness of this northern wilderness. Just like if you shoot a man in the heart, the

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bullet makes a small hole, but what happens to the man?

The mountainous area bordering the coastal plain is located in an 8-million acre zone that was classified as wilderness under the 1980 Alaska Lands Act. When standing on top of these peaks, one looks directly across the narrow band of coastal plain to the ice-packed Arctic Ocean, and beyond toward the North Pole. It is a far-reaching, sweeping view of the finest wilderness remaining in North America. One has the sense that you are standing on top of the world, in one of the few wild places remaining on earth where man only represents a tiny fraction of global life. On the coastal plain the wandering herds of caribou, muskoxen and countless migratory birds outnumber man. No roads criss-cross the sweep of tundra, no pipelines, no buildings or industrialization, only one small Inupiat village with a few hundred people.

Oil development on any scale would permanently destroy the wilderness character of Arctic Refuge coastal plain, and the aesthetics of existing classified wilderness that borders the coastal plain. The thought of a web of roads, pipelines, airfields, and buildings stretching across this truly wild expanse of tundra is unconscionable.

Any major development would bring thousands of workers and a host of negative impacts associated with gravel extraction, waste disposal, oil spills, water pollution, and hundreds of miles of pipelines and roads. Nitrogen oxide emissions from the North Slope oil fields are the equivalent to that Washington D.C. The 1995 Journal of Atmospheric Chemistry reports that 24,000 tons of methane are leaked into the atmosphere from the Prudhoe Bay oil fields each year (see attachment 1).

The industry boasts that any oil development in the Arctic Refuge would result in a much smaller footprint than Prudhoe Bay, claiming that only 13,000 acres would be disturbed. While that figure may sound small in relation to 1.5 million acres, one can clearly see by looking at the Prudhoe Bay complex that oil development is not consolidated. Its spiderweb growth pattern affects a far greater area. An estimated 12,000 acres of lost habitat are scattered across an 800 square mile zone of tundra through industry's extensive web of roads, pipelines, drilling pads and facilities. This estimate of disturbed habitat is less than what industry predicts for habitat loss in the Arctic Refuge.

As documented in the DOI's 1987 Arctic Refuge Coastal Plain Assessment, industry's footprint under a full leasing scenario would include numerous roads, hundreds of miles of pipeline, marine and salt water treatment facilities, large and small processing facilities, four airfields, numerous drilling pads, and millions of cubic yards of gravel. By its very nature oil development will destroy the wilderness values of the coastal plain, and in adjacent wilderness designated lands that border

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the 1002 area.

There are few wild places remaining on the earth that have extraordinary wilderness values similar to the Arctic Refuge. Only 4% of lands in America have been classified as wilderness, and most of those lands are in Alaska. The Arctic Refuge is our nation's greatest wilderness asset given its size, remote location, sparse human population, and tremendous diversity of arctic habitats and wildlife. There is no greater wilderness in America. It should be the last place that we should consider drilling for oil. Instead of putting speculative Arctic Refuge lease sale revenues in our federal budget, you, as stewards, should preserve the coastal plain as wilderness to pass on to future generations.

WILDLIFE VALUES:

The Arctic National Wildlife Refuge is the only conservation unit that protects a complete spectrum of arctic and subarctic species and habitats. While the coastal plain represents only 10% of the Arctic Refuge, it is the most productive habitat offering refuge for the greatest diversity of species. The highest concentrations of animals such as caribou, snow geese, and denning polar bears occur on the coastal plain zone proposed for oil development.

Where in America can one witness tens of thousands of caribou flowing by your tent? Where can one watch a polar bear feed on a whale's carcass, or a group of muskoxen encircle their young near a stalking wolf? Or a grizzly bear chase down a caribou in a pure wilderness setting? All of these wildlife spectacles take place on the coastal plain of the Arctic Refuge.

On one memorable trip to the Arctic Refuge, my one-year old daughter, Robin, tried to babble to a wolf that was walking by our camp along the Aichilik River. The puzzled wolf stopped and stared at her for what seemed a long time, then gradually moved up the valley. Robin was likely the first human toddler this wolf had ever seen. On another occasion I remember Robin bouncing up and down on the tundra pointing and squealing at thousands of caribou walking by us. Such wildlife experiences are treasured memories. I can only hope that future generations will have the same opportunities in the Arctic Refuge, without a maze of roads, pipelines and drilling rigs.

Each year the Porcupine caribou herd migrates to the coastal plain, their summer range and calving ground. For centuries these animals have etched countless trails across the tundra. Witnessing the aggregation of the Porcupine Herd on the coastal plain is a once-in-a-lifetime experience. Each year as many as 40,000 calves are born in the area proposed for development. In fact, between 1972 and 1995, the 1002 area had heavy calving concentrations for 21 out of 24 years. There have been some years

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when the caribou have delivered their calves in Canada, or in other adjacent areas, but the vast majority of the cows and calves have always moved into the 1002 area after calving (see attachment 2). It is clear that the coastal plain is a vital part of the Porcupine Caribou Herd's range.

The coastal plain also supports the highest concentration of land denning polar bears in Alaska, several hundred muskoxen, arctic foxes and wolves, wolverines, grizzly bears, and about 135 species of birds. Migratory birds from all continents fly to the Arctic Refuge each spring to nest and feed. Coastal plain visitors include tundra swans from the Carolinas, snow geese from the Central Valley of California, and plovers and other shorebirds from South America.

There is no conservation area in America that offers a home for such a great diversity and concentration of migratory species. I like to think of the coastal plain as a wildlife mecca for many species whose ancestors have made journeys to the Arctic for thousands of years.

The Athabaskan Gwich'in people of Arctic Village, and other villages in Alaska, the Yukon and Northwest Territories, have depended on the Porcupine Caribou Herd for their subsistence and cultural needs for many thousands of years. They are united in their opposition to development on the coastal plain. Having lived with them and experienced their traditional culture, I am stunned that their voices have fallen on deaf ears.

IS OIL DEVELOPMENT COMPATIBLE WITH THE PURPOSES OF THE ARCTIC REFUGE?

Under the 1980 Alaska Lands Act the first and most fundamental purpose for the establishment of the Arctic National Wildlife Refuge is to conserve fish and wildlife populations and their habitats in their natural diversity. As evidenced by 25 years of development at Prudhoe Bay, the infrastructure and activities relating to oil development are not compatible with the Arctic Refuge's primary purpose. While wildlife and oil development may co-exist on the North Slope oil fields, there are many cases where animal populations and their habitats can no longer be found in their natural diversity.

EXAMPLES OF NORTH SLOPE OIL DEVELOPMENT IMPACTS TO WILDLIFE:

1) Female caribou of the Central Arctic Herd avoid oil field infrastructure, and are extremely sensitive to disturbance during the calving season. Studies by the Alaska Dept. of Fish and Game indicate that caribou in the oil fields are less productive than caribou living in undisturbed areas (see attachment 3).

2) Alaska Dept. of Fish and Game studies reveal that about a dozen once-wild grizzlies have turned into garbage bears on the North Slope oil fields. There are 15 camps in the oilfields and Deadhorse. These range from a few small (less than 50 people) to large facilities (more than 500 people). Camp dumpsters and the 35-acre landfill at Deadhorse have become attractive food sources for bears (see attachment 4).

3) Some species of birds, such as the American golden plover and the semi-palmated sandpiper, have as much as a 50% lower nesting density along the web of oil field roads (Bird Use of Prudhoe Bay Oil Field, 1992, Troy Ecological Research Associates, Anchorage).

4) Scavengers, such as gulls and arctic foxes, have increased dramatically in the vicinity of garbage dumps. What affect this increase might have on predator/prey relationships is unknown. Gulls and arctic foxes are known to prey upon bird eggs and chicks (USFWS, personal communication).

5) The spillage of petroleum products, contaminants, and reserve pit fluids have degraded habitat in the North Slope oil fields. The Alaska Dept. of Environmental Conservation (DEC) reports that 100,098 gallons of petroleum products were spilled in the oil fields in 1993; 24,968 gallons in 1994. Most clean-up monitoring of the oil spills is handled by phone because of related costs.

6) U.S. Fish and Wildlife Service studies report that snow in the Prudhoe Bay fields have high concentrations of heavy metals such as zinc, lead, copper and barium (USFWS, Northern Ecological Services, personal communication).

These examples clearly document that oil development in the Arctic Refuge is clearly not compatible with the Arctic Refuge's purpose of conserving fish and wildlife populations in their natural diversity.

The Alaska Lands Act included three other purposes for the establishment of the Arctic Refuge. In short they are to fulfill international treaty obligations, such as the U.S. Porcupine Caribou Herd Treaty; to provide an opportunity for local residents to continue their subsistence way of life; and to protect water quality and its quantity within the refuge.

The DOI's 1987 Coastal Plain Resource Assessment summarizes 27 unavoidable impacts to the wildlife and habitat of the 1002 area under a full leasing scenario (see attachment 5). These impacts further illustrate that oil development is clearly not compatible with the Arctic Refuge's four purposes. Some of the major impacts include:

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1) reduced use by caribou of up to 37% of concentrated calving areas;

2) destruction of vegetation, contamination of waters, or mortality of small food organisms due to an unknown number (possibly hundreds) of petroleum and contaminant spills;

3) Loss of subsistence hunting opportunities throughout approximately one-half of the 1002 area, and possible reduction in subsistence opportunities to communities outside the 1002 area;

4) Direct and indirect habitat losses for snow geese, muskoxen, grizzly and polar bears, and arctic grayling.

It is well documented in the 1002 report that opening the coastal plain of the Arctic Refuge to oil development will displace or reduce wildlife populations, cause direct and indirect loss of habitat, and bring a host of environmental problems from air and water pollution to oil spills. Activities associated with oil development have no place in America's wildest refuge. It is unacceptable to propose such grave and drastic impacts without full and free debate.

NATIONAL NEED AND ENERGY SECURITY:

I believe the recent lifting of the oil export ban clearly demonstrates that there is no pressing need to explore and develop the Arctic National Wildlife Refuge. Does it make sense to destroy the wilderness and disrupt the wildlife of our only Arctic Refuge so that we can send oil to Asia?

The oil industry has asserted for years that there is a great necessity to open the Arctic Refuge for exploration and development because the Prudhoe Bay oil field is diminishing. Yet, North Slope production over the past decade has only slightly diminished and forecasts through the year 2010 are very favorable. In fact, in the four years since Congress last refused to open the Arctic Refuge, Alaska's Dept. of Revenue forecast for North Slope production for the year 2010 has more than doubled.

Mr. Chairman, I was not present at the recent July 18th hearing on "Estimated Oil Reserves, Drilling and Operating Technology in Arctic Alaska," but I understand your committee was warned that North Slope production was likely to cease between 2008 and 2014 without a boost from the Arctic Refuge. Last month in Alaska we learned that Prudhoe Bay planning documents indicate that the major North Slope producers actually think Prudhoe Bay will be producing until 2040, as presented before the Alaska Oil and Gas Conservation Commission on May 16, 1995.

9.

At the same time that a representative of the North Slope producers told your committee why he thought West Sak could not replace Prudhoe Bay, other oil companies with interests in that same field have been touting West Sak's potential. For example, at a heavy oil conference in Calgary in June, BP representatives presented a paper describing the factors that could easily make West Sak an important commercial discovery (see attachment 6).

The report presents a very promising picture for the future production of the Schrader Bluff/West Sak/Ugnu reservoirs, estimated to hold 26 billion barrels of tar sands oil. New technology, such as coiled tubing, enhanced oil recovery techniques, and piggybacking on existing facilities, have helped to make these giant reservoirs more economical and attractive to producers.

On June 29, in Anchorage, OXY USA told the Alaska Oil and Gas Policy Council that the potential of West Sak rivals that of the Arctic Refuge, with two significant differences. One, you don't have to invade the Arctic Refuge and build a linking pipeline, and two, the oil in question is already discovered, not hypothetical. Occidental described, for example, how a five-year state royalty holiday could add more than 300 million barrels to the production forecasted from this field, which has been producing in modest quantities since 1991.

I present this information because the West Sak formation is a sleeping giant. If the reason for invading the Arctic Refuge is to find oil, we've already found it near Prudhoe Bay. I respectfully suggest that you consider the information I've referred to from the Heavy Oil conference in Calgary in June, and from the Alaska Oil and Gas Policy Council in order to make a balanced assessment.

OTHER AREAS TO EXPLORE

The State of Alaska currently has 1,037 active oil leases, approximately 3.4 million acres of onshore and offshore tracts. Nine lease sales have been proposed by the State of Alaska under their Five-Year Oil and Gas leasing Program. Five of these proposed sales are located on the North Slope and in the Beaufort Sea, and tracts to be considered amount to 4.7 million acres.

The North Slope lease sale 87, scheduled for 1998, consists of 2 million acres of "moderate to high" hydrocarbon potential. These high potential lands border the National Petroleum Reserve and include the Kuparuk Uplands and the Colville River Delta, which is considered a high prospect area by industry. A portion of the sale is jointly owned by the State of Alaska and the Arctic Slope Regional Corporation. While still in a proposal state, this lease sale illustrates that there are other moderate and high potential exploratory areas in the immediate vicinity of the existing North Slope oil fields.

10.

In summary, there is no need to invade the Arctic National Wildlife Refuge. There are many other lands that have been proposed for future exploration, and some with moderate to high potential. Current projections for North Slope oil development, without invading the Arctic Refuge, are very favorable.

ENERGY POLICY

The 1992 Energy Act mandated that our country adopt a national energy strategy based on the principles of energy conservation, efficiency, renewables and alternatives. If we reduce our dependence on the use of oil, this will preclude the need to develop the Arctic Refuge coastal plain. The fact that the Arctic Refuge development provision was removed from the energy bill prior to its passage, clearly demonstrated that developing our only Arctic Refuge was not an acceptable plan for our long-term energy policy.

Instead of raising the speed limit to 65 mph, we should lower it and conserve energy, particularly since more than half of our oil is used by the transportation sector. As was pointed out in 1987 testimony before your committee, increased energy efficiency and conservation is the best way to reduce our level of oil consumption. Reduced use of oil will preclude future needs of exploring and developing special places like the Arctic National Wildlife Refuge.

In conclusion, I urge this committee to withdraw the Arctic Refuge leasing provision from the Budget Reconciliation and consider other alternatives to balancing the budget. Selling off our nation's greatest wildlife refuge to help close the budget gap is an unprecedented travesty. The devastating ramifications from such a decision far outweigh any monetary gain.

Congress should have the wisdom and vision to preserve a portion of the undisturbed Arctic for future generations of humans and wildlife. I hope that when our children grow up that they will still be able to visit the Arctic Refuge in its extraordinary wilderness state. Thank you for considering my testimony on this most important national issue.



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August 16, 1995

The Honorable Don Young, Chair
House Resources Committee
Room 1324 Longwirth House Office Building
Washington, DC 20515

RE: Arctic National Wildlife Refuge

Dear Representative Young:

On behalf of Defenders of Wildlife's 118,106 members and supporters, we are submitting these comments for inclusion in the August 3, 1995 hearing record on leasing the coastal plain of the Arctic National Wildlife Refuge (Arctic Refuge) for oil and gas exploration and development. We are **adamantly opposed to opening the Arctic Refuge to oil and gas development by any means, particularly through the budget reconciliation process.**

The northeast corner of Alaska was first protected as the Arctic National Wildlife Range in 1960 for "its unique wildlife, wilderness, and recreational values."¹ In 1980, the Alaska National Interest Lands Conservation Act (ANILCA) doubled the area protected, renamed it as a wildlife refuge and designated 8 million acres of the original area as wilderness. Today, the Arctic Refuge is one of the largest wildlife refuges in the United States, covering 19 million acres of ice and tundra. Its stunning landscape is habitat to a diverse array of wildlife including, migratory birds, caribou, grizzly bears, Dall sheep, polar bears, and musk oxen. The nearby continental shelf provides the coastal waters with a rich nutrient base which in turn supports an unusually wide variety of marine mammals.

The Arctic Refuge contains one of the most fragile and ecologically sensitive ecosystems in the world. The harsh, forbidding climate leaves little flexibility for survival for its many inhabitants. The short growing season in the Arctic allows species that have been harmed little time for regeneration. The system's relatively short food chain means that the loss of one component can have disastrous consequences. In addition, as an adaptation to the climate, the inhabitants tend to have long life spans, which also makes species recovery difficult and lengthy. Human disturbances could do tremendous harm to this delicately balanced ecosystem. Drilling for oil in the Arctic Refuge would affect terrestrial animals through destruction of habitat by roads, pipelines and drilling pads. Roads and pipelines would fragment wildlife habitats restricting movement and population dynamics.

¹ Fred A. Seaton, Secretary of the Interior, Public Land Order 2214, Establishing the Arctic National Wildlife Range, 1960.

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Arctic wildlife generally require large habitat ranges and occur in scattered numbers. In addition, roads are often accompanied by an increase in hunting and trapping in the adjacent areas. The largest impact would be on the 152,000 member Porcupine Caribou Herd which is the main food source for many predators including wolves, grizzly bears, and wolverines. Caribou are also central to the diet and culture of the Gwich'in people.

Tens of millions of birds that migrate to the Arctic coastal plain each spring to nest in its wetlands would also be impacted by oil drilling activities. These birds travel from six continents from locations including the Chesapeake Bay, California, and East Coast states. Over 185 species of waterfowl, shorebirds, and seabirds have been observed in the Arctic Refuge including tundra swans, common eiders, arctic terns, and breeding brants. Last fall, more than 300,000 snow geese stopped to feed on the coastal plain before proceeding on their long migration to wintering grounds in the south. Biologists have found the geese extremely sensitive to human disturbance during this critical part of their life cycle. For all waterfowl species, oil drilling would disturb the nesting and foraging habitats as well as potentially have toxic effects. Of course, any declines of these migratory birds in Alaska would affect populations in the lower 48 states.

While the protection of all wildlife is important, Defenders is particularly concerned with the Arctic Refuge's polar bear and caribou populations. Polar bears inhabiting the U.S. Arctic are divided into two overlapping populations. The northern, or Beaufort Sea population is estimated to be 1,800 individuals. Individuals in this population spend most of their lives on pack ice well off shore from the coast of northern Alaska coming onshore in the early winter months to mate, den, and bear young. Maternity denning habitat is especially important to protect because, as noted by the U.S. Fish and Wildlife Service (FWS), this is "where reproductive success can most easily be altered."² Pregnant female polar bears typically build maternity dens in October or November, give birth to one or two cubs in December, and remain inside the den until March or early April. During this period, the new born cubs depend on the den and their mother for protection. Successful rearing requires a relatively undisturbed denning environment.

As noted in the FWS' just completed Polar Bear Habitat Conservation Strategy, the coastal plain of the Arctic Refuge is known to be especially important polar bear denning habitat of the Beaufort Sea population of polar bears. In the Beaufort Sea, the FWS has found that 43 percent of radio collared pregnant females came on shore to den within the Arctic Refuge.³ This represents a significantly higher concentration of polar bear dens than would be expected if dens were distributed evenly across the coast. Because polar bears exist in relatively small populations and have low reproductive rates (only a quarter of the female bears become pregnant in any given year), they are highly susceptible to even small decreases in population numbers. While Alaska's Beaufort Sea population of 1,800 polar bears appears to be stable, even small decreases in bear cub

² FWS, Draft Conservation Plan for the Polar Bear, 17 (December, 1993) ("FWS Plan")

³ "FWS Plan" at 18

survival or increases in female mortality could be devastating. Further, in 1991 congressional testimony, polar bear expert and Marine Mammal Commissioner Jack Lentfer noted: "Any new activity that adversely affects denning would likely decrease cub survival and thereby lower recruitment and cause the population to decline."⁴

In addition to the harm caused by disrupting denning activities, oil and gas exploration activity may also disturb polar bear feeding and migration patterns. Polar bears may be harassed by aircraft, ships and other vehicles. Bears may be forced to avoid favored feeding areas and migration routes, or, alternatively, be attracted by the sights and smells of human activity, thus increasing the possibility of dangerous human—bear encounters. In addition, polar bear habitat can be also be damaged or destroyed by dumping, dredging, drilling, and construction of platforms, pipelines, roads, and support facilities.

These disruptions would also affect the caribou of the Arctic Refuge. The coastal plain is vital calving ground to the Porcupine Caribou Herd. In fact, state biologists and the refuge manager just recently reported that 92 percent of calving by the Porcupine Caribou Herd was concentrated in the 1002 area this last spring. Oil drilling in this area would greatly disturb the calving process. Predators are common in the foothills to the south of the coastal plain, and relatively scarce on the coastal plain itself. The more time the calves can spend on the coastal plain the less likely they are to fall prey to predators. In addition, forage plants are more abundant and more digestible on the coastal plain, allowing for quicker growth of the calves. Oil drilling on the coastal plain could force the caribou up into predator territory and away from prime foraging habitat.

Development in the Prudhoe Bay area has disrupted both calving and migration patterns of the Central Arctic Herd. If Prudhoe Bay is even a remote indication of what might occur in the coastal plain, then it is inevitable that there will be disruption in natural patterns of the Porcupine caribou. The Alaska Department of Fish and Game and the National Biological Service have recently concluded that the avoidance of, and fewer movements within the Prudhoe Bay complex by female caribou of the Central Arctic Herd are ostensibly in response to the dense network of production and support facilities, roads, and above ground pipelines, and the associated vehicular and human activity.⁵ Likewise, caribou found near these production areas have an overall health condition substantially lower than normal.

The wildlife of the Arctic Refuge that depend upon the coastal plain belong not just to Alaskans, or the United States. These wildlife species know no political boundaries. Alaskans share this wildlife with the other 49 states, with Canada and with the rest of the world. The Canadian Ambassador to the U.S., Raymond Chretien has recently spoken on this issue. In a letter to the Senate Energy and Natural Resources Committee, he remarked that the plan to open the coastal plain could disrupt the

⁴ J. Lentfer, Testimony Before the House Subcommittee on Fisheries and Wildlife Conservation and the Environment, June 11, 1991.

⁵ David Cline, Testimony before the House Resources Committee, August 3, 1995.



migration of the caribou into Canada.⁶ Migration routes of polar bears would similarly be disturbed by oil drilling. In the Beaufort Sea, polar bears make extensive east-west movements between the United States and Canada. Also of concern to the U.S. is the fact that in 1973 a treaty was signed by the U.S., Canada, Denmark, Norway, and the Soviet Union and was ratified by the U.S. Senate in 1976 that promised protection of polar bears. Article II of this treaty clearly states that "each contracting party shall take appropriate action to protect the ecosystems of which polar bears are a part..."⁷ Opening of the Arctic Refuge's coastal plain to oil and gas drilling would be a clear abrogation of this international commitment.

The coastal plain of the Arctic Refuge is a precious resource that should not be wasted for unsubstantiated and small oil reserves. Oil drilling activities are not compatible with the purposes of the Arctic Refuge and should never be allowed.

Sincerely,

Linda Winter
Program Associate
Habitat Conservation Division

Patricia Hankenson
Intern
Habitat Conservation Division

⁶ Raymond Chretien, Canadian Ambassador to the United States, letter to the Senate Energy and Natural Resources Committee, July 31, 1995.

⁷ International "Agreement on Conservation of Polar Bears", Article II, 1973.

August 2, 1995

The Honorable Don Young
Chairman
Committee on Resources
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

On behalf of the Seafarers International Union of North America, AFL-CIO, I wish to commend the committee for conducting an oversight hearing on the issue of opening the Arctic National Wildlife Refuge (ANWR) for exploration and development. As we expressed in previous congressional hearings on this issue, the Seafarers International Union strongly supports legislation to permit oil exploration and development within the ANWR. Unfortunately, the Congress has delayed the decision over the last several years and valuable time to begin exploration has been lost. The Seafarers International Union believes that it is essential that the United States act affirmatively now in order to guarantee the Nation's future energy independence well into the next century.

Developing oil reserves on ANWR's coastal plain will be one of the most important steps that this country can take to provide for a stable and secure American economy. The oil embargo of 1973 and subsequent oil shortages demonstrate the effect of insecure oil supplies on America's economy. The Persian Gulf conflict just a few years ago highlighted once again the uncertainty in the Middle East and the need for the United States to maintain its independence, whether it be through stable energy supplies or through the retention of a viable U.S.-flag merchant fleet. Development of the Arctic National Wildlife Refuge would increase the Nation's secure energy supplies in the next few years and ensure increased energy independence for future generations.

In addition to energy security, production of oil within the ANWR will be a major boost to the U.S.-flag maritime industry. Oil production on Alaska's North Slope presently employs nearly half the tanker tonnage in the United States. Since ANWR development will take more than a decade to reach its initial potential and Prudhoe Bay fields will decline in the coming years, authorizing ANWR production now will prevent further erosion of the all important U.S.-flag tanker

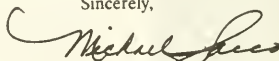


The Honorable Don Young
August 2, 1995

fleet. Any further delay will only serve to idle the fleet, forcing vessels to be scrapped and thereby limiting the number of skilled mariners available to respond to the Nation's call in a future national emergency to man both the commercial fleet and the government's reserve fleet.

The Seafarers International Union urges the Congress not to delay any further in addressing the Nation's future energy independence. We request that you move forward with legislation to permit ANWR oil exploration and development. It will strengthen the American economy and its maritime industry, generate American jobs, and enhance the Nation's energy security.

Sincerely,



Michael Sacco
President

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